

# MANUFACTURERS' RECORD

A WEEKLY SOUTHERN INDUSTRIAL  
RAILROAD AND FINANCIAL NEWSPAPER.

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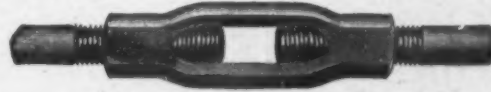
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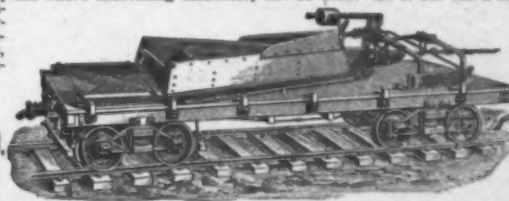


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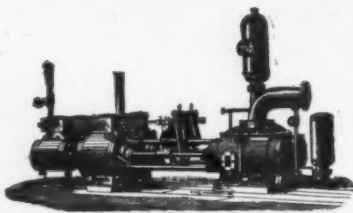
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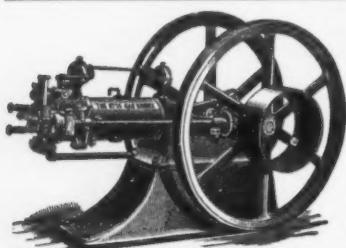
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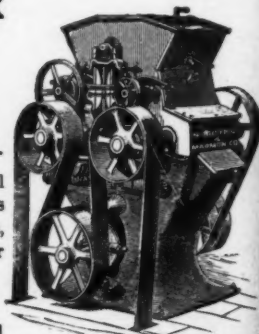


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# MANUFACTURERS' RECORD

A Southern Industrial, Railroad and Financial Newspaper.

VOL. XX, No. 16.  
WEEKLY.

BALTIMORE, NOVEMBER 21, 1891.

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## Manufacturers' Record

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BALTIMORE, NOVEMBER 21, 1891.

IN the MANUFACTURERS' RECORD of last week Messrs. Alex. Brown & Son, of this city, announced that the entire issue of \$2,000,000 of 5 per cent. bonds of the Baltimore City Passenger Railway Co. would be offered for subscription on Monday, the 16th, and until the 18th, unless previously taken. At 2 o'clock Monday it became necessary to close the books, the entire issue having been over-subscribed, the offers aggregating \$3,000,000, very largely made up of individual subscriptions for small amounts. This is probably the most successful bond issue ever made in Baltimore, as the subscriptions were almost wholly local and the entire amount was so promptly taken.

THE MANUFACTURERS' RECORD expressed its high appreciation last week of the brilliant management which has changed the Baltimore & Ohio Railroad Co. from a practically bankrupt condition to one of solid prosperity, which has likewise revolutionized its physical condition and has at the same time greatly extended its system and its connections, and it is needless to do more to day than to commend the brief but comprehensive report of President Mayer to our readers.

## An Enormous Pig-Iron Production.

A month ago the MANUFACTURERS' RECORD gave the statistics showing that the rate of pig-iron production on October 1 was the highest ever reached with one exception. Since then there has been a further increase, and on November 1 we were producing at the rate of 187,685 tons a week, which exceeds by nearly 4,000 tons the highest rate ever before recorded—183,846 tons on December 1, 1890. The number of furnaces in blast, however, has decreased, 304 being reported on November 1, against 306 on October 1, and 340 December 1, 1890. The monthly report of the Iron Age, from which these figures are compiled, shows the weekly product of all the furnaces on November 1 compared as follows with that of preceding periods:

	Furnaces per week, in blast.	Capacity Gross tons.
November 1, 1891.....	304	187,685
October 1.....	306	181,613
September 1.....	292	170,846
August 1.....	296	169,376
July 1.....	293	171,115
June 1.....	258	146,782
May 1.....	227	115,590
April 1.....	228	113,483
March 1.....	257	134,526
February 1.....	294	146,059
January 1.....	302	167,599
December 1, 1890.....	340	183,846
November 1.....	342	177,958
October 1.....	336	179,263
September 1.....	323	171,276
August 1.....	324	164,798
July 1.....	336	175,727
June 1.....	345	180,791
May 1.....	344	180,059
April 1.....	344	178,474
March 1.....	343	180,991
February 1.....	334	173,651
January 1.....	333	174,038
December 1, 1889.....	320	169,151
November 1.....	323	165,225
October 1.....	311	151,057
September 1.....	294	134,068
August 1.....	266	145,899
July 1.....	285	141,419

Under this tremendous rate of production there is some increase in stocks on hand at coke furnaces. A large number of new furnaces in the South are about finished, and some of them will probably go into blast shortly.

NEARLY 150 steamships are bound to Baltimore to load grain for Europe. The rush of freight from the West to the seaboard promises to exceed even the highest calculations made by experts, and many of the railroads are already overtaxed, although the corn crop has hardly commenced to move yet.

## An Important Railroad Combination.

A recent meeting of railroad officials at Charleston, S. C., and reliable information as to why they met and what they decided to do, leads the Charleston News and Courier to rejoice editorially, saying: "Charleston will become the terminus of another great railroad system by the first of the new year." This joyful prediction does not seem to be premature. On the contrary, there is every reason to expect that it will be fulfilled, for it is quite as much for the interest of the several railroads that evidently intend to establish a system of quick freight and passenger transportation between the valley of Virginia and Charleston harbor that it should be done, as it is for the business men of that lovely seaport city. But to Charleston's merchants, manufacturers and capitalists, the establishment of the new system will have an interest entirely apart from considerations of business and profits.

It is now some sixty years since South Carolina's most eminent statesman and most devoted citizen, John C. Calhoun, used the great powers of his intellect and influence in advocating the construction of a railroad across the mountains, so that Charleston might be joined to the Ohio valley and the granaries of the then developing West. His ideas were nobly supported by the capitalists, business men and the legislature of South Carolina. Considerable money was expended by individuals and the State before it was found that neither capital nor the requisite engineering skill were obtainable for what was then a stupendous and unprecedented undertaking. But while the enterprise failed at the time, the idea was never forgotten nor the scheme abandoned by Charleston, and whenever any reasonable plan for accomplishing the desired end was presented to her people it was carefully considered, and, if deemed practicable, received assurances of their cordial co operation and liberal support. Many times strong hopes have been

created only to be destroyed, but the faith of the people in their ultimate realization has never abated.

This time there is every probability that the hopes of more than half a century are to be fulfilled, for, with the exception of a single short link that will be finished in a few weeks, the chain is complete, and those who have control of its different divisions are well aware of the benefits that will accrue to their respective interests from the establishment of a system that shall give to each its due proportion of a traffic that only such a system could create.

The railroads that are expected to unite in a traffic arrangement that will result practically in the establishment of this system are (1) the Roanoke & Southern, (2) the Cape Fear & Yadkin Valley, (3) the Charleston, Sumter & Northern and (4) the South Carolina. All of these are completed, in so far as their connections are concerned, except the Roanoke & Southern, and on that railroad there is a gap of but 20 miles to be finished, the work on which has been so far advanced that it is certain nothing but unusually bad weather can retard its completion before the middle of December.

Assuming this completion as accomplished and that all parties will unite in an equitable traffic arrangement, then this line, 428 miles long, will connect Charleston with Roanoke, Va., and with the far-reaching system of the Norfolk & Western Railroad. What that must mean to Charleston and to the interior business men everywhere will understand. Large areas of the mountain region on either side of the dividing line between Virginia and North Carolina will be opened to settlement and development, and the mineral treasures and forest products of a still broader section will be supplied with transportation facilities. Charleston will have direct connection with the Pocahontas coal mines and be made another coaling seaport of the South Atlantic States. Roanoke will be 150 miles nearer to Charleston than in the past, and conse-



quently will be able to enlarge her trade and become a center of distribution for a large area, while the products of her factories will find new markets in the Southern cities, with which this new line will give them direct connections, and Winston will secure direct through connections to the North and to the South. But what Charleston merchants will most appreciate will be the fact that they can establish an exchange trade with the populous cities of the Ohio valley by means of the Norfolk & Western trunk line extending to Columbus, Ohio. The immeasurable benefits to accrue from this it is impossible to enumerate. They will affect every community tributary to the long line, as well as the large terminal and intermediate cities. By the completion of this system the brightest hopes and most sanguine expectations of half a century will be more than realized, and an impetus will be given to interstate trade and to Southern development that will tell upon the whole country.

The prospect is brilliant. The accomplishment seems to be assured. Hearty congratulations to Charleston, to Winston and to Roanoke, three places to which this line means so much.

#### New Iron and Steel Works in China.

The advance of civilization is forcing itself upon China, and which will in all probability in the not very distant future become quite an important factor in the world's iron and steel trade. What effect the building of modern steel works and the inauguration of active railroad construction enterprises in China will have upon that country, as well as upon the rest of the world, is a question that would be hard to answer. It can hardly be doubted but that China and its institutions must, to a large extent, be revolutionized by the advance of the railroad, and there is every reason to believe that its great stores of coal and iron in that country are to play a more important part in its future than they have the past. Coincident with their development will come the railroad. The MANUFACTURERS' RECORD has recently referred to the construction of new iron works in China, and the English correspondent of the American Manufacturer in his last letter gives the following interesting facts about large steel works to be built there:

The dawn of the age of steel in China is also affording work for English steelmasters. My readers are aware how the land of Confucius has been nibbling at the cherry of railway construction for some time past. China would appear at last to have to a great extent overcome her traditional prejudices against the manners and customs of Eastern civilization, and all at once she has "astonished the natives" by decidedly a bold industrial stroke. Particulars are to-day available of this recent order, from which it would appear to be a matter of no small importance. Indeed, a large steel-producing plant for the Celestial empire is at the present moment on its way

to China, after being constructed at the Tees Side Iron & Engine Works Co., Limited, of Middlesbrough. It is a complete Bessemer plant, including two 5-ton converters with cupolas, together with blowing engines, cranes and other pieces of machinery. There is likewise the entire machinery for a large rail mill as well as for a plate and bar mill, together with about 20 puddling furnaces. Two large blast furnaces of the Cleveland type, capable of producing 100 tons of pig iron daily, with all the necessary appliances, are in course of construction on the slope of the Hamyang hills, opposite the city of Hankow. A foreign technical staff has been secured, and in the course of a few months it is anticipated that there will be produced in China plates and bars, steel rails, soft steel for ship plates, special metal for small arms and other classes of steel and iron. Certainly this may fairly be termed "one more instance of the slow but sure progress of the intelligent Mongolian to bring the latest scientific improvements to bear upon the varied industries of that immense empire." The works will cover some 20 acres, and the execution of the whole undertaking in all its details has been entrusted to the above-named lucky Middlesbrough firm. An order for 2,000 tons of rails and sleepers was obtained in England some time back, and this is now stated to have been lately increased to 12,000 tons.

What a mighty change this new order of things portends. Is an era of industrial development and of modern ideas to change the civilization of that empire, and if so, what will be the effect upon its hundreds of millions of inhabitants? Will the industrial advancement of China open a new market for the products of English and American iron and steel works, or will China not only supply its own needs, but become a competitor in the world's markets for its metallurgical products?

THE United States Investor, of Boston, in discussing the future business interests of New York, says:

In the financial world she promises to become second to none, not even London. \* \* But New York may lose the keys of power in political affairs, and she may, when the advantages of Hampton, Newport News and Norfolk are more widely known, lose her lead in the export business.

This latter statement is worth thinking over. The MANUFACTURERS' RECORD is convinced that there is a great deal more in it than would be imagined. The prediction of the MANUFACTURERS' RECORD that around Hampton Roads will grow up one of the greatest shipping centers of the world is destined to be fulfilled, and the time is not far distant when this will be universally recognized.

CRAMP & SONS, the great shipbuilders of Philadelphia, are reported as intending to establish a large ordinance works for the manufacture of all sizes of heavy guns for naval and coast defense uses. It is stated that their idea is to have works of such a character in connection with their ship-yard that they can build and arm complete all classes of war vessels for this or other countries. This movement is only another step in the metallurgical advancement of our country.

#### More Care Needed In Packing Cotton.

Liverpool cotton buyers have often of late met with serious losses in consequence of the bad condition of the lint received at that port from this country. Bales that to outward appearance were all right have been found to contain large quantities of poor lint. So serious has this become that foreign buyers have sought the aid of the National Department of State to remove the evil. Should it continue it will discredit American cotton in foreign markets to an extent that will affect the value of every year's crop, for neither foreign nor American mills will pay the face value for cotton until they are sure that it is what it is represented to be. Messrs. Alex. Sprunt & Son, of Wilmington, N. C., extensive exporters of cotton, have issued a circular to cotton planters and buyers in which grave reasons are given why everybody in the business should combine to restore and maintain the reputation of American cotton. After stating that "a large part of last season's holdings was rendered unmerchantable and worthless by previous exposure to the weather in open fields or under the eaves of outhouses," and that many exporters were deceived and made such heavy losses from damage and falling off in weight that they had reached a fixed determination to refuse all cotton that had not been properly housed this season, the circular says:

Our purpose is to show that such carelessness reacts upon the planter. Many bales which came to us last spring apparently dry and in good condition were found, upon examination by the testing rod, to be utterly rotten and valueless. In one instance a bale of apparently dry cotton weighing 640 pounds was opened for examination and found to contain 550 pounds of rotten cotton, which was sold for about one cent a pound. Many other similar cases could be quoted, but this will suffice to justify the warning that a planter or merchant who risks his cotton out of doors in bad weather is likely to suffer serious consequences—in heavy allowances for damage, or the utter rejection of the cotton as unmerchantable.

Here is work for the educational department of the Farmers' Alliance. The preparation of cotton for the market does not end at the gin and the baling press. Until it passes from them to the merchant it should be sheltered; after that the responsibility for its condition rests with the buyers and the transportation companies. As a rule, if it leaves the baling press in prime order, it will be found in the same condition when the bale is opened at the mill. Messrs. Sprunt & Son have not overrated the importance of caretaking on the plantation and by interior buyers.

THE Newport News (Va.) Sun reports that the rush of coal and grain to that place is beyond the power of the Chesapeake & Ohio Railroad to handle. Eighteen hundred carloads of grain have, it is said, been engaged for shipment to Europe via that port.

#### Roanoke as an Illustration of the Solidity of Southern Development.

The solid growth of Roanoke is one of the best proofs that could be desired as to the substantial character of the industrial development that has been going on in the South for several years. Right at the moment of the greatest real estate speculation, which by the way is but an incident in development that always and everywhere goes with rapid growth, came the panic of last fall. Predictions were freely made that the results would be disastrous to Virginia's development, and Roanoke was often pointed out by those who did not understand the foundation on which the South was building as the place where the greatest reaction would be seen. A Baltimore banker and the writer had many discussions last winter as to the effect of the panic upon Roanoke, that being the place which the former insisted had been built up purely on speculation, and where, he said, there would be an absolute collapse. A year has now passed. Roanoke has met the worst financial strain to which the South will probably ever be subjected. During that time not a financial institution has failed, and we believe only one business house of any magnitude. Instead of disaster it has steadily increased its business; it has extended its industrial interests, and has added more new enterprises than ever before in the same length of time; it has built more good dwellings than in any previous twelve months; its railroad connections have been broadened, and a new line of great importance has been constructed and will soon be opened for business, giving Roanoke another outlet to the South; its financial position has been strengthened, and the way in which it has stood the strain has given increased confidence to capitalists in its great future. As one illustration of what has been done we publish to-day an extract from the Roanoke Times showing what has been accomplished in industrial development by one company only. This company, organized just as the Baring failure came, has pursued the even tenor of its way, building bridges, locating solid manufacturing enterprises, and really building a town without any effort to sell real estate. Its business has been a work of industrial development and not a lot selling business. The growth of Roanoke during this period of financial stringency is but an illustration of the solidity with which the South is building up, and the people of that city deserve to be congratulated upon what they have accomplished in the last twelve months. The coming twelve promise to be very active ones for them.

TO SOUTHERN corporations, bankers and brokers: THE MANUFACTURERS' RECORD will give investment offerings four insertions free, announcements not to exceed one inch in space.



## DIRECT TRADE WITH EUROPE.

The Regular Steamship Lines Between  
Newport News and Foreign Ports.

## A GREAT THING FOR THE SOUTH.

On July 11th the MANUFACTURERS' RECORD made the first announcement that a contract had been closed between the Chesapeake & Ohio Railroad and Christopher Furness, one of the largest steamship owners in England, for the establishment of three regular steamer lines between Newport News and London, Liverpool, Glasgow and Havre. Since then arrangements have been in progress for carrying out this contract, and in the meantime a number of steamers have been loaded at Newport News for foreign ports. Now, however, the final plans, including the dates of sailing for the next six weeks or two months, have been matured, and another line has been added, making four, and the MANUFACTURERS' RECORD has the pleasure of presenting the following extract from the official advertisement of the company:

## FURNESS, WITHEY &amp; CO., LIMITED,

AGENTS FOR

## FURNESS LINE,

## NEWPORT NEWS, VIRGINIA.

## FOR LIVERPOOL.

Steamships.	Tons.	About
SERAPIS.....	2,500	Nov. 25
MONARCH.....	3,000	Dec. 10
ISTRIAN.....	4,000	Dec. 15
MONSEATON.....	1,500	Dec. 20
INCHBORVA.....	2,800	Dec. 25

## FOR LONDON.

BALTIMORE CITY.....	3,500	Nov. 30
STRAITS OF BELLEISLE.....	3,000	Dec. 5
WEATHERBY.....	3,000	To follow
BOSTON CITY.....	3,000	To follow

## FOR GLASGOW.

ARDANMOR.....	3,000	Nov. 20
ARDANGORM.....	2,000	Dec. 5
MANDALAY.....	2,500	Dec. 20
CYNTHIANA.....	4,000	Dec. 30
FELICIANA.....	4,000	To follow

## FOR HAVRE (Pinkney-Furness Lines).

NERATO.....	4,000	Nov. 25
IMBROS.....	2,500	Dec. 12
JERANOS.....	2,500	Dec. 25

Through bills of lading issued to interior points in the United Kingdom or on the Continent at very favorable rates.

C. W. ROWLEY, Manager,  
Blackstone Building, Baltimore, Md.

Between now and January about 20 steamships will be loaded at Newport News by this company with general cargo for Europe, and in addition to this there will be many steamers taking out full cargoes of grain from that port. The 20 general cargo boats to go out before January 1st will carry about 60,000 tons of freight, and heavy engagements of grain, flour, provisions, lumber, etc., are being made in the West for shipment by these boats.

As important as the foregoing announcement is and as great as its influence upon the South is destined to be, it is not the most important feature of what the MANUFACTURERS' RECORD is able to announce. When the contract was for these lines first made it was generally supposed that the steamers would either come out in ballast or bring return cargoes to other ports, and load outward business only from Newport News. But they are to be regular lines in fact as well as in name, and the pioneer steamer of the direct line from Liverpool to Newport News, the Istrian, sailed from the former port November 18th with general cargo for Newport News. It is the expectation of the company to work up this trade for west-bound traffic from United Kingdom ports to Chicago, Cincinnati, St. Louis and other Western points. It is rumored that the Furness Co. has within the past few days purchased three of the Leyland's steamers, formerly running between Boston and Liverpool, for the Newport News trade, the "Istrian" being the first one to come out, and they, in all probability, will be withdrawn from the Boston-Liverpool trade and added to the Newport News line.

Virginia and the whole South may well rejoice at this practical inauguration of

direct trade with Europe. It is what the MANUFACTURERS' RECORD has long labored for. It means great things for the South and for the West because it marks the beginning of a diversion of Western traffic to Southern ports for shipment to Europe. These are the first regular steamship lines between the South and Europe.

## Washing Coal for Coke-Making.

[Written for the MANUFACTURERS' RECORD.]

The coke industry of the South has passed through many vicissitudes and has been attended by many difficulties. The problem of furnishing an adequate supply of good coke for the blast furnaces in the Alabama and Tennessee districts has been discussed from all points, but it cannot be said that the problem has yet been solved to the entire satisfaction of the consumers of coke. True, there has been a great advance towards this end, and by improved methods and more careful preparation of coal the product of the Alabama and Tennessee ovens has been much improved, but furnace managers are doubtless willing that further improvement should be made. There is an abundance of coal in Alabama and Tennessee from which a good coke can be made if proper care be exercised in the various steps of the process, but it appears that there is room for improvement in the preparation of the coal. Most of the Southern coals run high in ash, as compared with the Connellsville standard, and they are too friable to produce the best results under the burden in a blast furnace. Both of these elements of disadvantage can be largely eliminated by washing the coal before coking, and it is a matter of surprise that this plan is not followed more generally and with greater care than is the case. In the MANUFACTURERS' RECORD of last week brief mention was made of the erection of a Luhrig coal-washing plant at the works of the Sloss Iron & Steel Co., at Birmingham. This is, we believe, the first of these plants that has been erected in this country, and in view of the success that has attended the use of this system of washing in England and on the Continent, some further particulars regarding this plant and process may be of interest to those who are interested in the mining of coal or making of coke in the South.

The plant now under construction in Birmingham is being erected by the Luhrig Coal Washing Co. at its own expense as a practical demonstration of the merits of the Luhrig system. The building is already erected, the machinery is nearly all in place, and it is expected that the plant will be ready to wash coal by December 1. The plant will have a capacity for washing 350 tons of coal per day of ten hours, but by running doubleturn this output could be proportionately increased. Primarily this plant is designed to test coal from different mines on a large scale to show that the percentage of ash and sulphur in the coal can be largely reduced with a minimum of loss of pure coal in the washing and at a minimum cost. It is expected that the plant will be able to wash all the coal required for the coke ovens of the Sloss Iron & Steel Co.

Coal washing has been tried in various forms and with various degrees of success in the South. In the majority of cases the experiment has been abandoned as costing more than the value of the advantage gained. It is hardly fair to assume, however, that these failures have been due to any inherent defect in the principle, for the experience of the European coal miners and coke makers has furnished an ample demonstration of the advantages that follow the washing of coal when properly conducted. It was only a few years ago that the Woodward Iron Co. put up an extensive washing plant in the Birmingham district, capable of handling 500 tons of coal per day, but after a single year of

operation it was abandoned, and the company went back to unwashed coal for coking. If the writer is correctly informed, washing has already been tried several times with indifferent success at the Coal-burg mines of the Sloss Co. under former ownership. The Cahaba Coal & Railroad Co. has tried washing the Cahaba coal, but the plan was abandoned, we believe, on account of the expense. The coal from the Pratt mines of the Tennessee Coal, Iron & Railroad Co. is not washed for coking, although in his paper, presented before the American Institute of Mining Engineers a year ago, Mr. Erskine Ramsay ventured the opinion that washing might improve the quality of the product, the question of cost being the only obstacle. At the Sewanee mines, at Tracy City, Tenn., washing was tried a few years ago, but Superintendent E. O. Nathurst declared in an article in the American Manufacturer a few years ago that he thought it would be cheaper to sell the washer for scrap and use run-of-mine coal from the mines for coking.

It is probable, however, that these failures have been chiefly due to mechanical defects or want of care, for at several points in the South washing has been carried on with excellent results. The principle is correct; the only trouble lies in its application; and there are few matters to which Southern coal miners and coke-makers can turn their attention with greater advantage. The chief trouble with most of the Southern coals is the excessive proportion of ash and sulphur, and there is no better method of eliminating these troublesome elements than by careful washing. Whether or not the Luhrig system will solve the problem remains to be seen, but it is not too much to expect to look for some good results from this process, which has accomplished so much abroad. At any rate, the workings of this experimental plant will be watched with a good deal of interest.

The essential features of the Luhrig coal-washing process may, perhaps, be best understood by reference to one of the recent plants erected at the North Motherwell colliery, in Scotland, where some very interesting results have been obtained. This plant is handling the entire output of three large collieries, amounting to about 1,500 tons per day. The run-of-mine is discharged from the mine cars on to vibrating screens with 2-inch round holes. The fine coal falls into a bin holding about 100 tons, and the lump coal passes on to picking and loading tables, which deliver the coal for shipment or use. These picking tables are formed of round rods. The larger pieces of slate and intergrown coal are separated by hand on these tables, the dirty coal being thrown into a breaker and crushed for the subsequent recovery of the fine coal. The fine coal is lifted from the bin beneath the first vibrating screens by an elevator which delivers it into a revolving sizing drum at the top of the washery building. This drum is constructed of perforated steel plates and consists of several shells which divide the small coal into various sizes of nut and pea.

These different sizes are delivered by spouts into separate jigs, where the coal is washed. The product as delivered by these jigs consists of clean-washed coal, coal intergrown with shale, pyrites, etc., and washed dirt. The clean coal is delivered over drainers into hoppers ready for loading into cars.

The intergrown product is conveyed by a worm to an elevator which carries it to the top of the building for further crushing in a roller mill. This broken product is again washed by jigs and the clean coal is recovered, the refuse being carried to a refuse pit. The jigs used in this work have feldspar beds, which were invented by Mr. Luhrig, and which have been introduced into the anthracite breakers in Eastern Pennsylvania with such good results in

the treatment of the fine sizes of anthracite coal.

The fine coal recovered on the feldspar jigs is carried with the overflowing water to a small draining drum, made of copper sheets with very small holes, which separates the finest coal, the good coal going into storage hoppers and the fine dust passing into a sludge recovery apparatus with the dirty water. This sludge recovery apparatus consists of a traveling creeper, working very slowly and gathering the finest dust as soon as it settles down. An elevator lifts this fine dust to bins from which it may be drawn as desired for any purpose. The water is thus clarified at the same time, and the overflow from the sludge recovery apparatus is suitable for use again in the plant. This is in brief the process as applied in one of the latest plants erected in Scotland, but a clear description is difficult without suitable drawings or plans. In Engineering, of London, February 13, 1891, this plant was fully described and illustrated.

The coal from this colliery contained 21½ per cent. of ash before washing, but the product, after passing through the washing plant, contained only 4½ per cent. At another recently erected plant at the Ellenboro colliery, of the Hematite Iron & Steel Co., Maryport, the ash is reduced from 23½ per cent. in the unwashed coal to 5½ per cent. in the washed product. The coal of this mine was considered as non-coking prior to the establishment of the washing plant, but a good quality of coke was made from the washed product. In Yorkshire, England, the Denaby Main Colliery Co. has recently erected a Luhrig washing plant for the treatment of coal for coking, the coal used for this purpose being a mixture of dirty hard and soft smudge. The result attained is about 4 per cent. of ash in the coke, with a loss by washing of only ½ per cent. of pure coal in the refuse.

At many of the foreign collieries where this system has been introduced, it has been possible to utilize a large amount of product that had previously been considered as worthless, being too dirty to be of any value. In many instances the recovery of pyrites from the coal has been an important item, and has added considerable to the profits of the collieries. As regards the cost of this system, there appear to be no definite figures given, but it is claimed that the washing can be done at very small expense, well within the margin afforded by the increased value and amount of the product. What can be accomplished with this process in the treatment of the coals of the South will surely be a matter of much interest. With such ample stores of coal as lie about the Birmingham district, there is no reason why an abundant supply of excellent coke should not be made at the point of consumption. There is certainly room for improvement in the present product, and it is much to be hoped that washing will be given a thorough trial. What has been done elsewhere can be done again here.

## Anthracite Coal in West Virginia.

From time to time there have been reports of the discovery of anthracite coal in Berkley county, W. Va., and, after full investigations, some capitalists have purchased large tracts of land there and in Morgan county, and are developing the property. A correspondent of the MANUFACTURERS' RECORD writes that the field covers 30,000 acres and contains large and well defined veins of excellent anthracite coal. Mr. J. L. Hatch, of Rochester, N. Y., is president of the company recently organized to operate in this field. This company is now actively at work.



## REFRIGERATION.

The Science of the Day.

[Written for the MANUFACTURERS' RECORD.]

V.

The ignorance of the general public on the subject of refrigeration often leads to very amusing criticisms upon the relative value of natural and manufactured ice as refrigerating agents. It is not generally known that the refrigerating power of ice is exerted by its dissolution, so that the ice which melts quickest will absorb the greatest amount of heat and cause the lowest temperature. The criticism is often heard that manufactured ice melts more rapidly than natural ice, and is, therefore, "not as cold" as that produced by nature. Dealers in natural ice use as a stock argument the statement that their stock is "colder" than the mechanical product, and as they have for many years been auto-crats in their line, the public has, as a general rule, come to believe their statements without thought or investigation, and this impression prevails to an alarming extent in all parts of the country. Aside from the reverse having been scientifically established, I have been using manufactured ice in my domestic refrigerator for many months, and nothing would induce my family to return to the use of natural ice, except the inability to obtain any other kind.

One of the chief points of advantage of the manufactured ice is its absolute purity and freedom from disease germs. The water from which the ice is made is heated in large boilers until it assumes the form of steam, in which form it is passed through pipes to a receiving tank where it is condensed, and from whence it is conducted to the cans in which it is frozen into pure crystal ice. In the process of distillation all foreign substances are left behind, all disease germs are destroyed, and the water which is frozen into ice by the action of refrigerating agents is free from all injurious substances or germs.

*There is no such thing as absolutely pure natural ice.* It has long been known that diseases may be transmitted through the medium of ice, and there are well authenticated and carefully recorded instances of the spread of typhoid and typhus fevers by the use of ice taken from streams in infected districts, in which the germs of the disease were held in a dormant state in the ice for many months.

The State Board of Health of Massachusetts made a very exhaustive investigation of the natural ice question recently, and the results published by the board should cause the immediate erection of ice-making plants in every locality where ice is used, even in the most Northern latitudes. If these results were known throughout the United States the demand for mechanically-made ice would be so great that the manufacturers of ice-making and refrigerating machines could not possibly supply the demand for ice plants.

I wish I could occupy sufficient space in the MANUFACTURERS' RECORD to give the results of the board's investigations in detail, but as I cannot do that I will summarize as briefly as possible the principal points developed.

The board examined 236 samples of ice taken from different points in Massachusetts, Vermont, New Hampshire and Maine, including the Maine lakes and rivers from which so large a portion of the ice supply of the Atlantic coast States is taken, and not a single sample was free from injurious substances. In many of them the pollution was so great as to be an immediate menace to life, yet the ice from these sources was sold by dealers to the unsuspecting public, who, had they known the true state of affairs, would have preferred paying handsomely to have avoided using it.

In discussing the existence of bacteria

in ice the board state that the absence of any great number of bacteria from the ice should not be taken as an indication that the ice is not dangerous to health, for there is a wide difference in their harmfulness. They say "a large number of bacteria of one kind may be practically harmless, while a small number of another kind may communicate a most serious disease. It is known, from these experiments as well as from others, that many kinds of bacteria survive a long season in ice, and it has been shown by Dr. Prudden that the bacillus of typhoid fever will live in decreasing numbers in ice for three months at least. It is then the quality of the bacteria rather than the quantity that we are to consider," etc.

The board found that the first inch of ice frozen held nearly all the impurities which the water contained, and that the ice frozen below the surface of the water contained less of these impurities the deeper it reached. Where ice was flooded in any manner—by sinking the ice, by rain, by falling snow, or otherwise—the surface ice contained all the impurities of the water, and many of those from the atmosphere. Such ice was most dangerous; snow ice held a much larger proportion of impure matter than solid ice, and opaque ice more than clear ice.

If there be needed further testimony to convince anyone of the danger which lurks in the apparently innocent and the decidedly refreshing product of nature's low temperatures, it will only be necessary to continue the line of experiments, the results of which have been accorded above. It is idle to endeavor to reassure one's self by reverting to the fact that these samples were taken from points in thickly-settled New England, for many of them came from the purest running waters known in this country—the clear, sparkling rivers of Northern Maine—where they wind their way through the great forests, which are almost uninhabited.

It is decidedly unpleasant to contemplate the possibility that the piece of apparently pure ice which we drop into our ice pitcher may communicate the much dreaded typhoid fever, or some other disease, to those who drink of the water, but that possibility always exists, and, too, often becomes a terrible fact. Who knows but that the very relief so constantly craved by, and now so freely given to the patient racked with some form of fever—crushed ice—may be the cause of the fever changing to a virulent form, or even to typhoid, and resulting fatally. Imagine the feelings of relatives who have sustained the loss of one most dear to them should they discover that, under the physician's instructions, they had unwittingly administered the fatal poison while believing they were using the only agent which gave promise of restoration. It cannot be said that these deductions are highly drawn or improbable, for the facts to sustain them appear in the report of the seven high medical authorities who compose the State Board of Health of the enlightened and progressive State of Massachusetts. There is only one way in which all danger may be avoided—and the grateful alleviator of fever's parching thirst may be assured to perform its intended function—that is, by using ice manufactured from distilled water.

If the consumers of ice everywhere were to take a proper interest in this subject and encourage the establishment of ice-making plants as they should do, there is no reason why the citizens of every city and of every town of any size in the United States should not be supplied by their own ice factory with pure, wholesome ice.

In conclusion, I will state that I am not now, and have never been, in any way connected with the manufacture of ice or of ice-making machinery, but my attention has been directed to this subject as to any other public matter, and I have endeavored to enlighten the public by giving them the benefit of my observations.

DIXIE.

## THE PHOSPHATES OF AMERICA.

Where and How They Occur, How They Are Mined and What They Cost.

The rapid development of the phosphate interests of Florida and South Carolina makes extremely timely the publication of an important work entitled "The Phosphates of America—Where and How They Occur, How They Are Mined and What They Cost." This work is published by the Scientific Publishing Co., of New York, the author being Francis Wyatt, Ph. D. The Engineering & Mining Journal in reviewing it says:

"Since the nature and extent of the Florida deposits were discovered, there has been a 'boom' in phosphates, and more attention has been attracted to this mineral than ever before. All the principal cities of the United States, as well as London, in England, have been full of promoters and land speculators, who have told capitalists of the fabulous profits to be obtained in mining phosphates; and, while many of the companies formed to operate in the new region have been organized upon a legitimate basis, many visionary enterprises have been undertaken by investors who have had no means of guidance. The general ignorance concerning phosphates is even now immense, there having been no authoritative book of reference on the subject, and unscrupulous or over-sanguine promoters and land owners have been enabled to make illusive statements which have sadly misled the trusting investor.

"Dr. Wyatt gives a list of companies formed to mine phosphates in Florida within the past two years, and then says:

"This list is, we repeat, only a partial one, and the number of companies is increasing daily. If, instead of the meaningless 'paper capital,' which most of them represent, forty odd millions of dollars were really at stake, the fact would excite serious anxiety. We should be compelled to show that the amount of phosphate to be mined and disposed of at a profit in order to pay 5 per cent. dividend on the investment would surpass the total consumptive capacity of the entire world. Fortunately no such question is necessary; we know that the capital is merely nominal, that many of the companies are mere 'mushrooms' and that, in brief, this phase of the question will regulate itself. From all that has preceded it will have probably been gathered that, in our opinion, Florida phosphate mining will prove extremely profitable to those who purchase and work its fields with judgment, but that it will certainly turn out in the highest degree disastrous to those who purchase on insufficient or incomplete examination, and allow themselves to be led away by their excited first impressions."

"It is not necessary in the pages of a scientific journal to urge the importance of chemical manures and phosphates to the farmer, but Dr. Wyatt, in his introductory chapters, gives us some very startling figures. He shows that the quantity of phosphoric acid removed from the soil in the cereal crops of the United States alone, taking very conservative figures, amounts to 2,714,585,483 pounds per annum, or 19 pounds per acre, and in addition there is 468,795,600 pounds removed in the hay crop, which is equal to 125 pounds per acre. These are, indeed, figures worthy of notice, and it would be interesting to calculate the amount of phosphate annually exported from the United States in the vast grain shipments. It is not wonderful that the attention of the government and the people is being directed to this subject. It is consoling, however, to read that in South Carolina and in Florida the United States has a reserve of this most necessary mineral, sufficient not only to supply the

necessities of this continent for hundreds of years, but enough to provide the requirements of European markets. At the present time manufacturers, chemists and farmers are all agreed that the supply is not being economically used, and this book of Dr. Wyatt's, in showing the way to the right path, should prove a boon to mankind.

"It must be understood that this volume is essentially a commercial handbook. It is written for the practical man. Dr. Wyatt avoids controversial points, and the discussion of rival geological and chemical theories, merely giving a brief resume of the more prominent of them. He writes broadly and impartially, and, always looking from the industrial point of view, for the most part 'sticks strictly to business.' He has written chiefly for the non-scientific and non-technical public, explaining chemical reactions, when necessary, lucidly and simply, and illustrating by plain diagrams the construction of apparatus and machinery.

"Dr. Wyatt first describes the occurrence and mining of Canadian apatite. He takes the reader down a typical mine, and describes the necessary appliances for working it. He then enters exhaustively and most impartially into costs and prices, and, quoting from actual figures, shows that the average cost delivered f. o. b. at Montreal was \$14 per ton in 1890, and the average price at the same place was \$15 per ton, for all sold, with an average of 75 per cent. of tricalcic phosphate. He insists, with additional emphasis, upon the necessity for an immediate and radical change of policy in this branch of the industry, saying:

"The custom of throwing the entire cost of production upon the high grades is unfair and should be discontinued. In its stead a rule should be established of setting aside for foreign shipment only such portions of the pure apatite as may be obtained directly from the lode without hand-cobbing at the surface. There would be no difficulty in disposing of these choice lots in Europe at very high prices, and there is no doubt that with proper care and skill in the management they could be brought up to one-fourth of the total output. The balance of the material mined would certainly average more than 60 per cent., would probably go up to 65 per cent., \* \* and could be readily and cheaply transformed into an excellent superphosphate containing at least 14 per cent. of soluble or available phosphoric acid. There would be no difficulty whatever in establishing a sale for such an article at a very fair rate of profit, \* \* and new channels would thus be opened up for the safe and profitable investment of capital and the constant and remunerative employment of labor."

"The developments of the last few months show the wisdom of these words.

"Dr. Wyatt next describes the phosphates of South Carolina, giving the geological features, the mode of mining, together with the number of companies at work, and their output. He discusses the legal difficulties between the State and the Coosaw Mining Co., and shows that in all probability the average price for land phosphate f. o. b. at Charleston, with 57 per cent. tribasic phosphate, is \$3 50 per ton, and of the river rock \$4.25, the selling price being \$7. He estimates that in the area explored, but still unexploited, there are 14,000,000 tons of phosphate rock remaining, allowing an average production of 50,000 tons per month for 28 years, which entire amount will very shortly be consumed in the local markets. In Dr. Wyatt's opinion South Carolina rock must be regarded as a raw material of the first-class in the manufacture of soluble and available phosphate, and it cannot be surpassed by any other material as an all-round staple, uniform and reliable article.

"In the same manner Dr. Wyatt describes the occurrence and mining of the more or less recently discovered deposits in Florida,



and, insisting upon the necessity of proper prospecting, shows how it should be carried out. We wish he had carried his descriptions further and had given us the result of his experience in more detail, and especially as to the location of the deposits of hard-rock phosphate, and no doubt it will be done in the next edition; but this information can only be gathered from the actual output of the mines, and many of them for obvious reasons do not wish the figures public. He states that he is warranted in declaring that the Florida phosphates of high grade occur in beds of an essentially pockety, extremely capricious, uneven and deceptive nature. "Sometimes the pockets will develop into enormous and deep quarries, and probably yield fabulous quantities of rock of various merchantable quality. At other times they will be entirely superficial, or will contain the phosphate in such a mixed condition as to render profitable exploitation impossible."

"Of the 'pebble' deposits of Peace river there is a good description, and Dr. Wyatt says:

"Pit sinking and boring is now going on over an area of many hundreds of miles, and, so far as we have been able to ascertain, the prospectors have succeeded in demonstrating that this section of Florida is virtually underlaid with a nodular phosphate stratum of a thickness varying from a few inches to 30 feet, and covered by an overburden that may be fairly averaged at about 8 feet. \* \* \*

"The total cost of raising, washing, drying, screening and loading on the cars in execution of orders is variously estimated at from 50 cents to \$2 per ton, but from special information recently afforded to us by one of the largest operators we are enabled to place it at \$1.40, and this, to the best of our knowledge and belief, is the lowest yet recorded in the world's history of phosphate mining."

"Dr. Wyatt sums up on Florida as follows:

"These natural difficulties and impediments are at present rather discouraging, but the deposits themselves are of such immense extent and the demand for them is likely to be so great and continuous that all obstacles to their exploitation must be of necessity eventually cleared away. At that time the material of all grades will come forward in large quantities, and, as its chemical composition is very satisfactory, it will soon compete favorably for superphosphate making with any other phosphates now popular with fertilizer manufacturers."

"Dr. Wyatt next gives a very clear description of the most improved methods of the manufacture of sulphuric acid, and shows that in the majority of factories of this country the most economical methods are not in use, and that their apparatus is behind that now used in England and Germany. In this chapter is given a resume of the best practice in the manufacture of sulphuric acid, illustrated by drawings of the Gay-Lussac and Glover towers and other essential parts of the apparatus. This part of the book will be particularly valuable to the sulphuric acid makers of this country. So complete is the data given that any engineer should be able to construct sulphuric acid works with its aid."

"Dr. Wyatt then gives an account of the present method of the manufacture of superphosphates, and shows where the most general mistakes are made and describes how they should be remedied. He lays stress on the economy of 'high grade' superphosphates in which phosphoric acid is used as the solvent in lieu of the oil of vitriol. As this is a process scarcely known in this country, although for some years in vogue in Germany and France, this book is sure to do great good in drawing public attention to this boon to the farmer, and will probably be the means of founding a new industry in this country."

"There has frequently been a great deal of friction between buyers and sellers of phosphates on account of varying analyses. Dr. Wyatt shows that this is nearly always due to the difference of method in the laboratory, and fully describes, first, how the sample should be taken, and then gives a full account of the most approved method for the determination of all the elements to be expected in a sample of phosphate of lime. It is to be hoped that the publication of this book will make a new era in the history of its analysis and prevent any further trouble. With the aid of Dr. Wyatt's book prospectors will be able to make their own analyses, though he shows very plainly the absurdity of the results and methods at present in vogue with amateurs and local drug-store owners, and it is doubtful whether in the majority of cases it would not be better to send the samples to a chemical laboratory of repute. At the same time Dr. Wyatt shows that a laboratory is a necessity in a Florida high-grade phosphate mine, and by following his instructions, and with the outfit described, any intelligent superintendent will readily be able to make correct analyses."

#### An English Paper on a Virginia Town.

The Newcastle (Eng.) Daily Chronicle, which watches the growth of the South very closely as outlined from week to week in the MANUFACTURERS' RECORD, in a late editorial refers to New Castle, Va., as follows:

Another town is to be added to those named Newcastle. In addition to our own city and Newcastle-under-Lyme, there are three or four places so named in Ireland; there is an antipodean Newcastle; one or two in North America, and now in Virginia another takes the name, but divides it into two—New Castle. This latest claimant to the name is in Craig county, one of the richest of the iron centers of the United States. It has vast deposits of iron ores, including the rich "blue patch" ores of brown and red hematite, and also manganese, limestone and clays. It is claimed that iron may be there made profitably at less than £2 per ton. Although the ores have been known for some years, it is only in the last two years that there have been large attempts to work them. A manganese iron company was formed in 1889; a "New Castle Land & Improvement Co." a little later, and "lumber" companies, hardware and other manufacturing companies have since sprung up. There are now 18 furnaces in full blast—not in New Castle, of course, but within a radius of 50 miles or so, which have recently been built, whilst others are contracted to be erected. Two churches have been settled in New Castle; a model hotel with 100 rooms is just completed, and water works and electric railway in the town are in contemplation, whilst a branch of the Chesapeake & Ohio Railway is this month completing its branch to New Castle. With its vast mineral wealth, with the fine climate the mountains of Virginia give it, and with a great railway company which says to the promoters of the iron industry there, in a good Yankee phrase, "The railway company wants you, and it will always want you, and you can expect nothing but square, fair treatment," New Castle may become one of the metallurgical centers of the "New South" of the United States. It is none the less likely to do so when it is said that the railway company, following a custom that is not uncommon in the United States, offers to take shares in the iron companies that may be formed to a defined extent—a method of treatment that is rather different to that of some railway companies in the Old World.

#### Norfolk's Rapid Advance.

[Special Cor. MANUFACTURERS' RECORD.]

NORFOLK, VA., Nov. 16, 1891.

Norfolk is never too busy to find time to extend courteous hospitalities to new visitors. Last week she received with military honors Baltimore's crack regiment, and paid them every attention that the limited time at their disposal would permit.

Now committees are busy arranging for the World's Fair State Convention to be held here next week. The opera-house has been secured for the assemblage; reduced rates over the railroads have been obtained, and whatever can be done to entertain the twelve to fifteen hundred delegates expected will be done with a cordiality worthy of all praise. Members of the committee of the Business Men's Association having charge of the arrangements say that the list of speakers who have promised to be present comprises some of the most able and distinguished men of Virginia, that the newspapers of the State will be fully represented and that the delegates, as a whole, will constitute a large body of thinking practical men representing all the diversified industries of the Commonwealth. The committee men believe that this convention, supplementing the work of that held at Pulaski last summer, will broaden and deepen the current of public sentiment now flowing strongly in favor of a legislative appropriation great enough to enable those having it in charge to make a display at Chicago of which every Virginian will be proud—one that will set before the world the vast natural resources of the Old Dominion, the extent of her manufactures and commerce, her attainments in education and the arts, and the manifold advantages and charms to be found within her broad area for home-seekers, investors, manufacturers and tourists.

Speaking of the preparations for the convention, Gen. V. D. Groner, one of the presidential commissioners from this State to the exposition, said: "Unless the unexpected happens it will be a success in the number and character of the delegates and in the spirit they will evince and the practical influence it will exert. As Gen. Groner is chairman of the committee on transportation of the national commission, and is also chief by appointment of the international naval display to be made at Hampton Roads, your correspondent asked him of the prospects for cheap transportation between all parts of the country and Chicago, and of the outlook for the naval review. As to the first, he was satisfied that every railroad and steamboat passenger line would reduce fares to a minimum; that as a whole traveling would be cheaper all over the United States during the exposition months than it ever had been. As for the naval display, there was every reason to expect that it would be the most brilliant, peaceful naval event of history, and would make a superb picture that would probably not be equaled by any that might occur during the lifetime of this generation."

Very few of Norfolk's citizens realize the steadiness and strength of her progress. The best way for either citizen or stranger to realize how fast Norfolk is growing is to procure a copy of Bowman's recently published map of the city and its vicinity, and, using that as his guide, to drive westward to Atlantic City, crossing Paradise creek by the bridge near its mouth and riding along the road paralleling its western shore into the fast developing property of the Norfolk Co., whose splendid bridge, crossing the same creek from Botetourt street, is one of the most substantial ever built in the South. This company's property, comprising 220 acres, purchased at a cost of \$485,000, lies between the present built-up parts of the

city and Lambert's Point. The amount and character of the work at this west end of Norfolk continues to astonish those who have watched its progress from the start. Miles of streets have been graded and sidewalks curbed, and these, as fast as they can be made ready, are to be paved by a process that secures a firm, dry, smooth road, equal to the best in Washington for comfort, and far more durable. This work is well advanced. At various points are large residences under construction, all of costly materials and of the most substantial character. On every hand are evidences of the engineering skill that has been employed by the capitalists, who are creating this splendid suburb, and of the liberal but carefully guarded expenditure by which this transformation is being effected. All this section lies west of Paradise creek and south of the Norfolk Terminal Railroad, which ends at Lambert's Point, where are its great coal piers, docks and warehouses, and where car works and machine shops will soon be constructed.

It has been repeatedly stated in the correspondence of the MANUFACTURERS' RECORD, that all the country between the Elizabeth river and Tanner's creek must at no distant day become a part of Norfolk in fact, if not by name and incorporation, and the progress of development in this territory confirms those declarations. Bowman's map shows why the extension of the city must be in this direction. The shore line of Elizabeth river extends west to Lambert's Point, beyond which it turns abruptly to the north and continues to the mouth of Tanner's creek. The latter flows in a course slightly north of west on a line almost parallel to the river between Norfolk and Lambert's Point, and virtually makes the territory occupied by the city and all the land between the two water-courses a peninsula, on whose river and creek fronts are a number of short, broad affluents of sufficient depth for all kinds of small craft that always find abundant work to do in the vicinity of great seaports. Nearly all of this territory has been purchased by local investment and development companies, several of which are now improving their properties, the remainder expecting to do the same at a later but not distant day. It would simply puzzle your readers were your correspondent to attempt to recite in detail all that these companies propose to accomplish. An account of the work of one group of corporations will show what progress has been made in a single section of this area, and by this can be inferred probabilities for the remainder. On the land of the Lambert's Point Investment Co., which lies on an affluent of Tanner's creek, and in an air line is but three-quarters of a mile east of Elizabeth river, the Lambert's Point Knitting Mill Co., of which Hon. Barton Myers is president, is finishing a large brick mill for making men's knit goods. It is to be what is known to the trade as a seven set mill, in which from 150 to 200 people will be employed, and give an output of 200 dozen shirts daily, which will consume 2,000 pounds of cotton. At this rate, working 300 days in the year, this mill will make 60,000 dozen shirts and use 600,000 pounds of cotton annually. The motive power (150 horse) will be furnished by a Corliss engine. The entire cost of the plant, except the land, will be \$90,000. The knitting mill company has leased the plant for ten years to New York parties of experience in the business, who have \$50,000 capital, and who will pay an annual rental of 8 per cent. on the cost of the plant. The Lambert's Point Investment Co., which owns a large tract of land adjoining the mill property, has graded streets and made other improvements, and will continue such work until the whole property is finished. Near to the mill are 35 lots for which the Norfolk Building & In-



vestment Co. paid \$300 apiece. On these that same company is having built neat two-story frame cottages of various designs at an average cost of \$900. These are to be rented to the mill employees. To facilitate transportation, the Norfolk & Western Railroad is building a branch from its terminal tracks to the mill, which will be finished in time to land the carloads of heavy machinery at the mill. It is expected that this branch will eventually be extended across Tanner's creek to Sewell's Point, and so furnish all that territory with railroad facilities.

The purchase of the extreme point of Willoughby Spit has been completed by the payment, in a draft upon the United States Treasury, of the full sum to the proprietors. Col. Thomas L. Casey, chief of the engineer corps of the United States Army, has furnished estimates for the appropriations Congress will be asked to make for the fortifications and armament of this new protector to the great commercial cities lying above and around Hampton Roads.

Old Norfolk is probably the most compactly-built city of its population in the United States. Except a few family estates that cannot at present be divided, its homes and its business blocks are closely crowded. This is due to the fact that there has not been until recently any quick transit to the suburbs, but this difficulty has been removed in part by the Norfolk & Western's extension to Lambert's Point, by the prolongation of the street railway service, and by the construction of the railroad to Virginia Beach. It will be entirely overcome when the belt line shall have been finished connecting all the suburbs with the several steam railroads entering the city. Quick transit to the suburbs is necessary to Norfolk's prosperity, for the reason that there is in the old town no room for more population, and city people will not make their homes several miles from the center of business unless the means for getting back and forth comfortably and speedily are provided. Meanwhile business of all kinds is increasing and creating a demand for additional facilities.

Within a radius of five miles from the public market there is a present population of 80,000, more than half of whom reside within the city limits. Tributary to this city, which is their best central trading point, are the counties of Norfolk, Princess Anne, Nansemond, Isle of Wight, Southampton, Sussex, Surry, Matthews, Gloucester, Elizabeth City, York, Warwick, Accomac and Northampton, in Virginia, and of Currituck, Camden, Pasquotank, Perquimans, Chowan, Gates, Hertford, Northampton, Bertie, Washington, Beaufort, Tyrrell, Dare, Martin, Edcombe, Wilson, Greene, Craven and Halifax, in the State of North Carolina, representing a population of 600,000 and a business amounting to many million dollars annually. It is this immediate outside trade, as well as that which Norfolk now reaches through great trunk line railroads, that has made this a notable city for retail trade, and that fits it to be equally noted as an important jobbing center when merchants of large capital and experience shall open establishments here. Three or four such wholesale dry goods houses as are found in New York, Philadelphia or New Orleans would build up an immense and profitable trade with nearby and remote States, and especially with the rapidly-growing sections of the two Virginias and of North Carolina.

In quest of information, your correspondent visited many private concerns to get an intelligent idea of the diversity of business done in this city. One of these was the warerooms of A. Wrenn & Sons, builders of fine pleasure vehicles. This house began business in a small way in 1852, and steadily grew in importance until

the war temporarily interfered with its business. Since then it has continued to prosper, and although low-priced Western work has virtually taken the market for cheap goods, it turns out work of as high grade as is made by the most noted Eastern manufacturers, and is able to hold its own in competition with them. In answer to an inquiry Mr. Wrenn said he used but little Southern timber. Very few mills there knew how to turn out quartered oak and to prepare other woods for fine carriage work. This factory has a pay-roll of \$2 500 monthly. In an adjoining building are the salesrooms of Wrenn, Whitehurst & Co., manufacturers of plows, baling presses, cotton and corn planters and various other agricultural implements. They employ 50 men, whose wages amount to \$2 000 monthly. Both concerns sell their goods over a large territory, and consider Norfolk one of the best points for manufacturers in the country.

The Norfolk Supply Co. was incorporated in March, 1891, with an authorized capital of \$50,000, of which one third was paid into the treasury. This company, which was an experiment, based on the faith of its stockholders in the industrial development of Norfolk, has done an excellent business from the beginning. It deals in railroad, steamboat and mill supplies of every description, and is extending its trade in all directions.

Grundy & Taylor are wholesale dealers in notions, fancy goods, stationery and toys. They sell strictly for cash, but their business covers all the large towns in every State South from here to the Mississippi border.

These several instances have been cited as proof of what has been asserted that this city has every advantage for manufacturing and selling goods.

Another illustration of the growth of population here and of its influence upon all classes of business is the increasing circulation of the daily papers. The Virginian, I am told, has recently revised its subscription list by cutting off several hundred delinquents, and yet has more than 6,000 circulation, a net gain of more than 33 per cent. within a short time.

Mr. Charles G. Eddy, vice-president of the Norfolk & Western Railroad, has been here several days. In conversing with your correspondent, he said: "Our system is doing an immense business. The increase of traffic will compel us to add largely to our facilities. Several capitalists largely interested in Virginia have been here recently looking over the territory. Norfolk is bound to be a great seaport, but to hasten its growth everybody must put his shoulders to the wheel. All the prominent points on our lines are in good shape, and have rounded the corner of the late depression.

In West Virginia everything is all right. Every new furnace on our system is going into blast, for all are assured of full supplies of ore. The railroad will soon look like a herring bone on the map because of the many branches five or ten miles long, built to cover all ore points for furnace supply. Within six months all this work will be finished. There is a steady growth of population of a good class is our territory. It is wonderful how soon the young backwoodsmen and mountaineers acquire mechanical skill. They go into the shops, work as helpers besides trained mechanics, and under good teachers become excellent workmen. All this development of the interior is advancing Norfolk. Tell your readers this old city is coming and is bound to get there."

THE MANUFACTURERS' RECORD stands at the head of all the industrial journals published in the United States, and it is especially devoted to the Southern States and their interests. We commend it to our readers.—Palatka Tropical, Florida.

## MIDDLESBOROUGH.

The New Developing Company, Election of Officers, etc.

[Special Cor. MANUFACTURERS' RECORD.]

MIDDLESBOROUGH, KY., Nov. 13, 1891.

The long-expected and anxiously-awaited extraordinary general meeting of the shareholders of the Middlesborough Town Co. has at last been held. This interesting event took place in this city at 3 o'clock yesterday afternoon in the general offices of the Town Co., Mr. A. A. Arthur in the chair. Mr. Edward F. Powers, of London, England, was present with proxies representing nearly every share of stock held by the English, Scotch and French shareholders.

Upon motion the following resolution was unanimously adopted: "Be it resolved by this company to accept the terms of the sale embodied in the contract between the Middlesborough Town Co. and the Middlesborough Town Lands Co., which contract provides all funds requisite for the commitments and necessities of the Middlesborough Town Co., which are to be taken over and payment on same guaranteed by the Middlesborough Town Lands Co., and which also contemplates the continuance of the Middlesborough Town Co.'s plans for the commercial and industrial development at Middlesborough."

On motion of E. F. Powers the shareholders passed a cordial and unanimous vote of thanks to the Middlesborough Town Co.'s officers—A. A. Arthur, Jno. M. Brooks and Jno. B. Cary.

This was the extent of the business transacted at the meeting, which was immediately followed by the new company meeting to organize and to elect officers. The officers elected are: Edward F. Powers, president and managing director; E. M. Mathieson, vice-president; John M. Brooks, manager, and E. M. Reiss, secretary, pro tem. It is pleasant to state that both meetings passed off very harmoniously and with absolute unanimity.

It will thus be seen that the Middlesborough Town Co. is no longer in existence, and that all its property, good will, assets, liabilities, etc., have been purchased by the Middlesborough Town Lands Co., which will hereafter continue in the development of the city of Middlesborough.

The new president, Mr. E. F. Powers, is an American by birth, coming originally from Chicago, but has been residing in London, England, for the past 15 years. He has been prominently connected with many English enterprises in the South American States, all of which he brought to a successful issue. He is a young man, about 37 years of age, of dark complexion, but quick of action, and of determined character. He is a man who is exceedingly reticent, and refuses to be interviewed on the future plans and policy of the company. His opinion of Middlesborough, however, can be estimated from extracts on the subject delivered by him to the shareholders in London only a few weeks ago.

He said: "In the origin and development of a new town there should be some primary cardinal points why a town should exist. In reference to New York, Chicago, Boston and your own Sheffield, Birmingham and Middlesborough, you can answer in the case of every one the question 'why these towns exist.' You can give natural and legitimate reasons. \* \* \* Middlesborough occupies a position second to none in the United States as regard coal and iron, \* \* \* a position eminently justifying a new town-site, \* \* \* the assembled forces of nature in close proximity to one another. \* \* \* Coal, iron, limestone and timber and many other things I found there in abundance on my investigation. You have the natural resources in such wonderful profusion and so easy of development that

it is simply a question of doing business properly and keeping away from doing anything of a speculative character. \* \* \* I do not say we have coal equal to No. 2 Pittsburg because I am told so by some one who desires to boom Middlesborough, but I do say so because I have letters from producers of gas at Knoxville, Augusta, Macon and Atlanta who say it is equal to No. 2 Pittsburg, and who also buy it for making gas. I do not say the coke made from Middlesborough coal is equal to Pocahontas because the mine owners tell me so, but I do say it because I am told it to be the case by Southern furnace men who are now using it. I do not say we have magnificent bodies of iron ore because I have heard it from others, but because I have been through the mines and seen, not small deposits of surface cuttings, but 65,000 to 70,000 tons on the dump ready to go into blast. I do not tell you what magnificent timber we have as the result of hotel gossip, but because I have gone on horseback through those virgin forests and seen the magnificent timber on hundreds of thousands of acres of wild land.

"This concern, I say, has simply to be handled in a business-like manner, and you will possess that which you will be proud of. \* \* \* American capitalists have hitherto kept out of this property, regarding it as belonging to an English company, but all through the South a great deal of American capital is invested in places that cannot hold a candle to Middlesborough as it is to day. If you cannot keep it in your hands a receiver will be appointed, and eventually it will be acquired by New York parties, and I do not believe such natural riches will be allowed to remain dormant long in a country like the United States."

It is difficult to conjecture the future policy of the new company in its development of this city, but those who are acquainted with Mr. Powers and his methods feel very confident he will adopt conservative and vigorous methods to bring out at the earliest moment the many advantages he is convinced exist here.

The Harrogate Inn, which was completely burned down in July last, has been rebuilt larger and handsomer than ever, and on Tuesday last was again thrown open to the public.

Ex-Governor Alonzo B. Cornell, of New York, spent a couple of days here last week, and expressed great satisfaction at what he saw of this city and surrounding country. To your correspondent he stated he would be here next spring, and it is understood he will come here with many relatives and friends to spend part of the summer at the Hotel of the Four Seasons at Harrogate.

The Overbeck Brewing, Cold Storage & Ice Manufacturing Co. has gone into the hands of a receiver. This action was brought about by the decision of the American as well as the English shareholders. The magnificent structure is almost completed and could have been made ready to brew beer some time ago, but both Frank and Will Overbeck were taken seriously ill, and had to be removed to their home in Cincinnati. The ice manufacturing department had been in operation some time, but was closed up some weeks ago. Mr. C. M. Woodbury, of this city, has been appointed receiver, and states he expects to complete the buildings at an early date, and hopes to have every department in running order before long.

O. O. HALL.

MESSRS. McCORMICK & Co., of 308 W. German street, Baltimore, Md., desire to correspond with machinery manufacturers relative to the manufacture of their special patented machine for filling bottles with perfumery and medicines.



## THE FOUNDATIONS FOR A CITY.

## A View of the Roanoke Development Co.'s Work.

**Elegant Streets and Avenues Commanding Views of Magnificent Scenery and Affording Delightful Drives—Substantial Bridges Already Erected—Industries That Will Sustain 5000 People—Business Property Offered For Sale—A Talk With President Denniston.**

[Roanoke Times, November 13.]

The building of a city by a single corporation is one of the most astounding achievements that may be placed on record, yet Roanoke owes its unparalleled growth to the extraordinary enterprise of the Norfolk & Western Railroad, and the line of development which made Roanoke a possibility seems about to be duplicated by the Roanoke Development Co.

It is a duty which every citizen of Roanoke and every visitor to Roanoke owes to himself to make a thorough examination of this remarkable enterprise. Take a drive through the famous West End property and cross the river into the Roanoke Development Co.'s 1,300-acre tract, and see what has been done and how widely the foundations have been laid for a new city. This city will, of course, soon knock at the doors of the corporation of Roanoke and ask admission.

Bridge No. 1, a magnificent structure crossing the river in a single cantilever span at a height of 70 feet, and 50 feet in width, will be built entirely of steel by the American Bridge & Iron Co., which has the work well under way. It will be 635 feet in length, and will cost not less than \$30,000 completed, which event may be looked for about the 1st of January. Though two other fine bridges will cross the river into this tract, No. 2 being completed and No. 3 as yet in contemplation, bridge No. 1 will hold the key to the entrance of the entire tract. From it branch Virginia avenue, a magnificent thoroughfare 100 feet in width, and Roanoke avenue, along which the new business center of the West End will spring up.

Virginia avenue will eventually be lined with magnificent residences, and a thoroughly equipped electrical street railway system will swing around this avenue into Denniston avenue to bridge No. 3, where Roanoke avenue again joins to seek an outlet into the extreme western area of the property.

Leaving Virginia avenue about a thousand feet from bridge No. 1, the visitor finds himself on Denniston avenue, which presents the remarkable features of some of the most noted boulevards of the world. It is 165 feet in width, divided into roadways of 40 feet each, with a park 85 feet in width in the center. From either drive magnificent views are obtained of the surrounding country, and in conjunction with Mountain View terrace and Berkeley street, an oval drive of half a mile is had.

Further on Denniston avenue swings into the junction of Edgewood and Virginia avenues and continues, as before stated, to bridge No. 3, where it joins with Roanoke avenue. At the terminus of Virginia avenue is Woodland Heights, a beautiful hardwood park of some 25 acres, sloping gently to the river, where boating and canoeing may be indulged in for three-quarters of a mile above bridge No. 3. A second park lies in the slope to the north of Mountain View terrace of smaller extent but no less attractive features.

From Mountain View terrace may be seen all the attractive views for which Roanoke is famous. The entire sweep of mountain ranges is disclosed in every direction. After passing the second park the entire industrial area of the property

lies at the feet of the observer. Access to this area may be had either through Roanoke avenue or a road which winds gently down from Mountain View terrace at the eastern portion of the small park. This winding road leads directly into Bridge street, which intersects the manufacturing and business center and communicates with the city over bridge No. 2, which lies directly east of the Roanoke Iron Co.'s extensive properties.

Attention has already been called to the features of Roanoke avenue as a business region. It lies one block away from every industry which has been located on the tract, near enough for business purposes and far enough to induce the erection of a fine class of business structures. Already some ten or twelve stores have been predicated in the sales of business property, and with the completion and operation of the industries profitable businesses will be established in them. Within a few weeks, also, some 50 dwelling-houses will be in course of erection on Buford, Penn and Irwin streets for the operatives in the industries.

Roanoke avenue, which is 80 feet in width and over two miles long, is practically level from end to end, and will be the connecting link of the magnificent Roanoke-Salem boulevard, for the completion of which both cities are earnestly and actively laboring.

The first industry the visitor meets is the Cushman Iron Co., just east of the enormous buildings of the Norwich Lock Manufacturing Co. This concern deserves a special mention, for its buildings have been erected in a remarkably brief time, and the enterprise itself sought no aid and asked no subscription, but came to Roanoke for the simple reason that the advantages offered here were sufficient to induce its promoters to make the venture with their own capital. It will manufacture ornamental iron work, elevator frames, iron stairways and a large class of smaller work, and as the business increases will increase its plant, having secured enough ground to permit of considerable expansion.

The huge and widespread buildings of the Norwich Lock Co. are next seen. They are practically completed, and the machinery to equip them is ready to be placed upon the cars, shipped here and put in place, the company only waiting for the completion of the belt line by the plant. The boiler, engine and some of the shafting is already here and being placed in position. Not less than 300 men will find employment in this splendid industry within the next few months. These buildings were erected by Frank R May, the contractor, and are models of fine workmanship and durability. Mr. May has constantly been on the ground since the foundations were commenced, and every minor detail has received his personal attention.

Two blocks away the walls of the Bridge-water Carriage Works are in course of erection, and this already successful enterprise will here conduct a constantly increasing and profitable business.

Crossing the grade of the belt line, along which runs Railroad avenue, we come to the Duvall Engine Works, which are located around the bend in the river. These buildings, from one to two stories in height, are models of an industrial plant. Perhaps no buildings in Roanoke have ever been constructed in a more workmanlike manner or are better adapted to the needs of a manufacturing enterprise. Frank J. Korte, the general manager of the company, had charge of the erection of these buildings, and in their construction he has embodied some very original ideas, combined with over 25 years' experience with the Duvall Co., which he entered as an apprentice boy and gradually rose to the position he now holds. Mr. Korte started his business career with this company and has never been out of its employ for a day.

These industries, in conjunction with those of the Roanoke Iron Co., will employ over 1,000 men, for whom homes must be provided. It is a low estimate to say that 1,000 employees will support a population of 5,000 people, for not only will the employees have families of their own, but those families must be fed and served in a hundred ways, and for these services must come stores, butchers, bakers, servants, laundrymen and all the minor businesses which go to making up a city. It is, therefore, an entirely conservative estimate that within twelve months a population of 5,000 people will find homes on the Development Co.'s tract.

Ample provision is to be made for their comfort and convenience. A contract has already been entered into with the gas and water company to lay mains through the property, and work on these mains will be begun as soon as bridge No. 1 is completed. Large areas of land have been reserved at low figures for workmen's homes. Lots on Northumberland and Rockbridge avenues, within easy access of the plants, have been reserved, 50x150 feet in size, for mechanics' quarters. There are generally restrictions that but one house is to be erected on each lot, thus giving ample room for growth, preventing crowding and allowing each family to have a garden of sufficient area for raising vegetables and small fruits for the table. Lots are reserved also for church and school purposes. These grounds are all high and healthy, with beautiful outlets and within a few minutes' walk of every industry on the tract.

With the liberality which has been at all times a marked characteristic of the Development Co., a limited number of lots

are now being sold at greatly reduced prices to encourage immediate improvement. The regular schedule of prices is extremely reasonable, running from \$400 to \$600 on first-class business properties, averaging \$300 for ordinary building purposes and \$500 for large and beautifully located villa sites. The building restrictions are placed at from \$1,500 to \$2,000 for the finest residence quarters, and the houses must be set back from 15 to 30 feet from the street line, according to the death of the lots.

In conversation with President A. C. Denniston he stated he had no doubt that an electric line will make the circuit of Virginia and Roanoke avenues and run into the city early next year.

The writer recently made a thorough inspection of the properties in company with President Denniston, and can truthfully say that no similar enterprise has ever been planned with such broad and liberal scope. Every future contingency of growth has been forecast and provided for.

The material interests have frequently been sacrificed to develop some beautiful view. Ample reservations have been made to preserve for the public remarkable topographical features and give free access to the best point of view. No more grand and picturesque views can be found in Southwest Virginia than may be seen from Mountain View terrace or Rivermont avenue.

One word in conclusion. The areas reserved and devoted to manufacturing enterprises are located in the so-called bottom lands along the river. That expression is a misnomer, for these level stretches are never overflowed, and vary from 15 to 25 feet above the level of the river.

## Baltimore and Ohio Railroad Company.

## ANNUAL MEETING OF THE STOCKHOLDERS.

The Annual Meeting of the Stockholders of the Baltimore and Ohio Railroad Company was held yesterday at the office in the Central Building. Mr. Reverdy Johnson was called to the Chair, and Mr. Andrew Anderson was appointed Secretary. President Mayer submitted the Sixty-Fifth Annual Report for the fiscal year ended September 30, 1901. The Secretary read the Report to the Meeting. It is as follows:

## SIXTY-FIFTH ANNUAL REPORT.

OFFICE OF THE BALTIMORE AND OHIO RAILROAD COMPANY, }  
BALTIMORE, November 2, 1901. }

To the Stockholders of the Baltimore and Ohio Railroad Company:

The President and Directors submit the following statement of the affairs of the Baltimore and Ohio Railroad Company for the fiscal year ended September 30, 1901.

The General Balance Sheet, the tabular statements of the General Auditor, and the report of the General Manager are appended.

## OPERATIONS FOR THE YEAR.

## GENERAL INCOME ACCOUNT.

	Year Ended Sept. 30, 1899.	Year Ended Sept. 30, 1901.	Increase.	Decrease.
<b>EARNINGS.</b>				
From Freight	\$16,991,646 80	\$16,813,019 93		\$178,626 88
Passengers	5,614,351 44	5,974,541 53	\$360,190 09	
Mail	519,549 08	493,541 87		26,007 21
Express	554,132 53	610,164 24	55,031 71	
Miscellaneous	734,556 98	639,247 35		105,309 63
Total Earnings	\$24,414,095 90	\$24,530,394 91	\$116,299 01	
<b>OPERATING EXPENSES.</b>				
General Expenses	\$1,569,326 32	\$1,638,881 17	\$69,554 85	
Conducting Transportation	8,979,088 83	9,177,001 30	197,912 47	
Maintenance of Equipment	3,332,092 98	3,309,438 73		\$22,654 25
Maintenance of Way and Structures	3,186,361 66	2,982,959 79		203,401 87
Total Expenses	\$16,966,869 79	\$17,107,320 99	\$140,451 20	
Net Earnings from the operations of the property.	\$7,447,226 11	\$7,422,162 05	\$25,064 06	
See Table A.	1,599,837 42	1,559,877 14		\$39,960 28
Add Income from other sources. See Table C.			\$6,935 94	
Total	\$8,955,063 53	\$8,712,039 19		\$243,024 34
Deduct Net Earnings from Washington Branch.	376 171 93	199,706 78		185,405 15
Available Income	\$8,578,891 60	\$8,512,332 41		\$66,559 19
From which deduct Interest on Bonded Indebtedness, Rentals, Taxes and other charges for the year. See Table D. For terms of Leases see Table I.	6,417,596 97	6,439,697 84	\$22,096 87	
Balance	\$2,161,294 63	\$2,072,634 57		\$88,660 06
<b>PAYMENTS.</b>				
Dividend on 1st Preferred Stock @ 6 %	\$180,000 00			
2d	300,000 00	300,000 00		
Remainder	\$1,861,294 63	\$1,772,634 57		\$88,660 06
From which payments have been made to retire Bonded Indebtedness, viz.:				
Principal Car Trust Bonds	\$250,000 00	\$350,000 00		
Series A	100,000 00	100,000 00		
Payment to the City of Baltimore for the purchase of its interest in the Pittsburgh and Connellsville Railroad	40,000 00	40,000 00		
Cash Appropriations to Sinking Funds	38,057 81	38,057 81		
Somerset and Cambria Railroad Traffic Bonds	33,000 00	23,500 00		9,500 00
	\$481,057 81	\$471,557 81		\$9,500 00
Leaving a balance of	\$1,380,236 82	\$1,320,616 76		\$59,620 06



## GROSS EARNINGS, EXPENSES AND NET EARNINGS OF EACH DIVISION.

The following table shows the gross earnings, the expenses and the net earnings of the Main Line and Branches and each Division of the System, with comparison for the preceding year:

	Gross Earnings.		Expenses.		Net Earnings.	
	1890.	1891.	1890.	1891.	1890.	1891.
MAIN STEM DIVISION, including the Main Stem and Branches, also the Winchester and Potomac, the Winchester and Strasburg Railroad, the Harrisonburg Branch, the South Branch Railroad, the Fairmont, Morgantown and Pittsburgh Railroad, the Washington County, the State Line, and the Confluence and Oakland Railroads....	\$11,959,595.19	\$12,031,581.94	\$7,806,797.59	\$7,417,999.37	\$4,152,797.60	\$4,613,582.57
PARKERSBURG BRANCH..	773,190.81	793,204.94	614,410.79	632,600.89	157,780.02	160,604.05
WASHINGTON BRANCH..	502,594.19	726,418.83	126,422.26	535,652.05	376,171.93	190,766.78
PHILADELPHIA LINE, embracing the Baltimore and Philadelphia Railroad and Philadelphia Branch.....	1,696,840.61	1,899,637.96	1,246,606.46	1,343,180.77	450,234.15	556,457.19
PITTSBURGH DIVISION, embracing the Pittsburgh and Connellsville Road, the Hickman Run Branch, the Somerset and Cambria Railroad, the Mount Pleasant and Broad Ford and the Fayette County Branches, the Berlin Railroad, and the Ohio and Baltimore Shore Line, Eastern Division.....	3,069,055.22	2,880,391.05	1,945,429.14	1,898,595.30	1,123,626.08	981,795.75
WHEELING, PITTSBURGH AND BALTIMORE DIVISION.....	755,789.71	653,012.10	630,502.72	598,830.39	125,286.99	\$4,211.71
MIDLAND DIVISION.....	262,707.52	344,458.26	176,876.83	275,258.54	85,830.69	69,199.72
CENTRAL OHIO DIVISION.....	1,408,213.95	1,365,563.97	1,098,405.05	1,178,021.64	309,808.90	187,542.33
LAKE ERIE DIVISION.....	1,211,170.02	1,105,818.50	939,772.91	851,458.97	271,397.11	255,359.53
STRAITSVILLE DIVISION.....	178,583.67	145,026.37	162,459.22	142,939.90	16,124.45	3,116.47
CHICAGO DIVISION.....	2,603,445.01	2,556,814.61	2,218,186.82	2,173,693.94	385,251.19	383,720.67
AKRON DIVISION, from August 1, 1891.....		27,376.38		30,691.20		Def 3,314.82
Totals.....	\$24,412,095.90	\$24,530,394.91	\$16,966,869.79	\$17,078,332.86	\$7,445,226.11	\$7,452,162.05

The revenues for the first half of the fiscal year have been materially affected by the failure of crops of 1890 and the commercial conditions of the same period.

The reduced revenues of the Pittsburgh and Connellsville system and of the Pittsburgh and Wheeling Division were due to the entire suspension of the coke traffic upon these Divisions during the strike of fifteen weeks.

The falling off of revenue during the above periods has been made up by the general increase of traffic during the last three months of the fiscal year.

A comparison of the fiscal year of 1891 with 1890 shows the following:

Increase in gross earnings.....	\$118,299.01 or 0.48 per cent.
" operating expenses.....	111,303.97 or 0.66 per cent.
" net earnings.....	6,935.04 or 0.09 per cent.
Decrease in earnings from freight.....	178,626.88 or 1.55 per cent.
Increase in earnings from passengers.....	360,290.09 or 6.42 per cent.
" tons moved.....	782,498 or 5.30 per cent.
" passengers carried.....	139,450 or 1.42 per cent.

## TONNAGE OF THE YEAR, WITH COMPARISON.

The large increase in the tonnage moved on the entire system is shown by the following statement. The service performed in the past fiscal year has been the largest in the history of the Company:

Tons carried in 1884.....	8,639,048	Tons carried in 1888.....	11,195,940
" " " 1885.....	8,422,936	" " " 1889.....	12,161,380
" " " 1886.....	9,807,886	" " " 1890.....	13,988,176
" " " 1887.....	10,572,893	" " " 1891.....	14,770,674

## CONSTRUCTION AND BETTERMENTS.

The aggregate expenditures for Construction and Betterments for the year have been \$1,601,902.06. For the fiscal year of 1890 they were..... 1,925,422.50

An increase in 1891 of..... \$206,479.56

The Management has deemed it wise to include in Operating Expenses in the past year, as in the two preceding years, a large expenditure made in Betterments.

The sum of \$1,601,902.06 has been charged to the different investment accounts to which the expenditures appertained, the details of which will be found in the General Manager's Report, Table B. It is distributed as follows:

Lines East of Baltimore.....	\$421,124.83
Main Stem and Branches.....	766,361.97
Pittsburgh Division.....	232,326.10
Trans-Ohio Division.....	182,089.16
	\$1,601,902.06

## EQUIPMENT TRUST FOR \$2,000,000.

Of the Equipment Trust Loan, Series B, of \$2,000,000, referred to in last report as made with the Finance Company of Pennsylvania, there has been expended \$1,377,278.09 for 41 locomotives, 10 passenger, 3 combination, 4 baggage and 1,795 freight cars, leaving still unexpended \$622,721.91 of this loan to be expended for equipment to be constructed.

The terms of this Equipment Trust require the payment of one-tenth of the principal annually on the first of November of each year, commencing with November 1, 1891.

## SINKING FUNDS.

The Company has maintained through the year its cash appropriations to the Sinking Funds of its Sterling Loan due in 1927, and the P. & C. Consolidated Mortgage Loan due in 1926. These two Sinking Funds now amount to \$1,132,060.

The investments for the appropriations and increments of the Main Line Sinking Funds, in pursuance of the agreement to that effect, have been made in the Consolidated Mortgage five per cent. one hundred year Bonds of this Company, and now amount to \$3,725,000 in these Bonds, in addition to \$5,174,283 of other first-class interest bearing Bonds.

PAYMENT TO THE CITY OF BALTIMORE ON ACCOUNT OF THE PURCHASE OF ITS INTEREST IN THE PITTSBURGH AND CONNELLSVILLE RAILROAD.

The Company has made its sixteenth annual payment of \$40,000 to the City of Baltimore, on account of the purchase of the city's interest in the Pittsburgh and Connellsville Railroad, leaving still due \$360,000 of the original sum of \$1,000,000.

## PAYMENT OF EQUIPMENT TRUST BONDS.

The Equipment Trust obligations of the Company have been issued as follows:	
Car Trust of 1887.....	\$2,500,000
Equipment Trust, Series A, 1889.....	1,000,000
Equipment Trust, Series B, 1890.....	2,000,000
	\$5,500,000

10 per cent of the principal sum is payable annually, and there has been accordingly paid as follows:

The Car Trust Loan of 1887 for \$2,500,000, four annual payments, aggregating.....	\$1,000,000
The Equipment Trust Loan of 1889, Series A, for \$1,000,000, two annual payments.....	200,000

Total payments..... \$1,200,000 with \$622,721.91 of Series B yet to be expended in equipment.

## SPECIAL LOANS AND BILLS PAYABLE.

Notwithstanding the large expenditures for construction, and for loans made to connecting lines (see Table E, "Advances for Construction and Permanent Improvement on Lines Leased and Operated") - "Due from other Railroads in General Account", the "Special Loans and Bills Payable" have decreased \$605,448.08, (see Table E).

## RELIEF DEPARTMENT.

The Annual Report of the Relief Department will be printed for distribution amongst the members. The following shows the condition of that Department:

The active membership at the close of the fiscal year was 22,313, being an increase of 393 as compared with the previous year.	
The receipts and income during the year have been.....	\$ 388,651.17
And the disbursements have been.....	402,173.74
From the commencement of the Relief Association to the close of the fiscal year the disbursements have been.....	3,146,736.84
The amount due depositors by the Savings Feature was:	
At the close of the fiscal year of 1890.....	506,812.95
At the close of the fiscal year of 1891.....	577,429.27
The withdrawals of the depositors during the year have been.....	139,394.25
The deposits during the year have been.....	210,010.37
The amount due by borrowers under the provision of the Savings Feature was:	
At the close of the fiscal year, 1890.....	307,674.87
At the close of the fiscal year, 1891.....	408,743.65

An extra dividend of one per cent. was declared on all deposits drawing interest at the close of the fiscal year, thus making the interest for the year equivalent to five per cent. per annum.

The funds of the Savings Feature are loaned only to employees of the Company, to enable them to purchase or improve homesteads, or to release liens thereon.

At the close of the fiscal year there were 185 names on the Pension roll, the disbursements on this account for the year having been \$27,894.18, and for the whole period, \$146,748.70.

## PHILADELPHIA DIVISION.

The business on the Philadelphia Division continues to steadily improve.

The following is the comparison with 1890:

Gross Earnings.....	\$1,899,637.96, increase of \$202,797.35, or 11.95 per cent.
Expenses.....	1,343,180.67, " 96,574.21, " 7.75 "
Net Earnings.....	\$ 556,457.29, " 106,223.14, " 23.59 "

## STATEN ISLAND RAPID TRANSIT RAILROAD.

The Staten Island Rapid Transit Railroad, in which the Baltimore and Ohio Company has a large interest, shows the following as the results of its operations for the fiscal year ended September 30, 1891:

Gross Earnings.....	1890. \$982,193.20	1891. \$1,025,597.69
Operating Expenses.....	596,495.17	631,599.61
Net Earnings.....	385,698.03	\$394,998.08
Interest, Rentals and Taxes.....	353,468.76	355,074.55

Surplus..... \$32,529.27 \$38,923.53

A large and commodious pier, for handling the coal traffic delivered by the Baltimore and Ohio Company, has been erected during the year at St. George, Staten Island.

## GRAFTON AND GREENBRIER RAILROAD.

This is a narrow gauge line which extends from Grafton to Belington, a distance of 41 miles. It is now being changed into a standard gauge road, with the view of making connection at the latter point with the West Virginia Central and Pittsburgh Railroad. When this is accomplished, the Grafton and Greenbrier Railroad will be a link in an important line from this section of West Virginia to Pittsburgh.

## AKRON AND CHICAGO JUNCTION RAILROAD.

The Akron and Chicago Junction Railroad, referred to in last Annual Report, came under the control of the Baltimore and Ohio Railroad Company on the first August, 1891, and was on that date opened for freight traffic alone. It will shortly be opened for general business, when the Baltimore and Ohio Railroad will begin to realize the benefit anticipated in the completion of this link in its line to Chicago.

## WEST VIRGINIA AND PITTSBURGH RAILROAD.

This line has been completed from Clarksburg to Braxton Court House..... 70 miles. And from Weston, via Buckhannon, to Newlon..... 40 "

Making a total of completed railroad of..... 110 "

The road bed and masonry are completed from Newlon to Pickens..... 10 "

And from Sutton to the Gauley River..... 40 "

Making a total of..... 50 "

On a portion of these 50 miles the track is now being laid, with the view of completing the entire line in the spring or early summer of 1892.

Several large saw-mills, and other industries, are already in operation on the line of the road. The West Virginia and Pittsburgh Railroad is, at the end of the graded line, erecting a lumber plant of a capacity of 50,000,000 feet per annum, which they expect to have in operation by April, 1892.

## BALTIMORE BELT RAILROAD.

Satisfactory progress is being made in the construction of the Baltimore Belt Railroad, extending from Camden Station, by tunnel and surface line through and around Baltimore, to Bay View Yard, on the Philadelphia Division of this Company, a distance of seven miles.

## PITTSBURGH AND WESTERN RAILWAY.

The Company has recently completed negotiations under which it secures a controlling interest in the Pittsburgh and Western Railway for the sum of \$2,161,800, to be paid in Common Stock of the Baltimore and Ohio Railroad Company at par.

It is expected that the transaction will be completed, and the Pittsburgh and Western Railway pass under the control of the Baltimore and Ohio Company, towards the close of the present calendar year.

The line is as follows:

From Allegheny City, where it owns extensive terminals, through the iron region of Western Pennsylvania and Eastern Ohio to Akron, Ohio, including its leased line of the Pittsburgh, Cleveland and Toledo Division.....	135 miles.
With a branch line from Niles Junction to Fairport, on Lake Erie.....	53 "
And a narrow-gauge line from Callery Junction to Mt. Jewett, Pa.....	148 "

Total..... 338 "

The control of this system furnishes the Baltimore and Ohio Railroad connections with Lake Erie and Cleveland.

It completes the Company's line from Baltimore to Chicago, with grades and other physical conditions as advantageous as for existing lines.

The purchase provides for the necessary funds by the Pittsburgh and Western Railway Company to put the line in thorough condition as a link in an important through line.

## UNION STOCK YARDS.

In 1881 the Baltimore and Ohio Railroad Company became the owner of the Claremont Stock-yards, located on the old Main Line 1 1/2 miles west of Mt. Clare, since which date it has been operating these yards for the conduct of its stock business.

The "Calverton Yards" were operated by the Calverton Company for the conduct of the stock business of the Pennsylvania system at Baltimore.

During the past year the "Union Stock Yard Company of Baltimore County" has been formed, and to this Company the Claremont Stock-yards have been sold, the Baltimore and Ohio Railroad Company retaining an interest in the Union Stock Yard Company.

The new company has consolidated the stock business of the two yards at the Claremont Yards, connecting the same by a branch line with the Pennsylvania system.

It is believed that this consolidation of the stock business of the city of Baltimore under one management will result very advantageously to the railroad companies and to the shippers.

## ROLLING MILL AT CUMBERLAND.

The Rolling Mill at Cumberland continues to be worked by the Cambria Iron Company, under the lease referred to in the last Annual Report.

## TERMINALS.

The work referred to in this connection in the last Annual Report has been vigorously pushed during the last year.

The yards at Brunswick and Benwood will be completed next spring. They are already doing a portion of the important service for which they were projected.

At Cumberland the work will commence this fall.

In the City of Wheeling nothing has yet been done. It is expected that the necessary preliminary arrangements will be completed in time to enable work to be commenced in the spring of 1892.

At Pittsburgh the commodious freight house and city yard have been completed and are in use.

At Locust Point extensive alterations and improvements have been made in the system of tracks, and the European freight-sheds are now being extended.

At Chicago the terminals used by the Company have been very inefficient, seriously embarrassing the development of the Company's business at that point. Negotiations, which have been pending for some time, will shortly be concluded, which will provide the Company with ample and superior terminal facilities at that place.

In addition to the completion of the above terminals, it is of the first importance that as promptly as possible in the coming year, large extensions should be made to the sidings and third tracks on the Philadelphia, Main Stem, Pittsburgh and Trans Ohio Divisions to facilitate the prompt handling of the passenger and freight traffic of the road.

The Management realizes the extreme importance of continuing to improve the physical condition of the property, and of bringing the road, its equipment and terminals up to the highest standard of efficiency.

In pursuance of this policy, the following large expenditures, which are included in operating expenses, have been made during the fiscal year:

For Maintenance of Equipment.....	\$3,399,438.73
For Maintenance of Way and Structures.....	2,982,909.76

Attention is called to the following tables attached to this Report, which give in detail all information connected with the several subjects:

- Earnings and Expenses of all lines East and West of the Ohio River.
- Statement of Net Earnings and Income and Fixed Charges of all lines of the system, together with the profit or loss upon each, for the fiscal year.
- Statement of Income from sources other than the operation of the Railroad System.
- Statement of Interest Charges, Taxes, Rents, etc., for the fiscal year ended September 30, 1891.
- General Balance Sheet, September 30, 1891.
- Profit and Loss for the fiscal year ended September 30, 1891.
- Statement of entire Funded Debt of the Baltimore and Ohio Railroad Company's System, including that for account of the Baltimore and Ohio and Chicago Railroad Companies, the Parkersburg Branch Railroad Company, the Philadelphia Branch and the Baltimore and Philadelphia Railroad Company; also the Funded Debt of the Pittsburgh and Connellsville Railroad Company.
- Bonds for which the Company is Guarantor.
- Leases of the Company.
- Profit and Loss, Washington Branch, for the fiscal year ended September 30, 1891.

The President and Directors take great pleasure in again acknowledging the specially faithful and efficient services of the officers and employees of the Company during the past year.

By order of the Board,

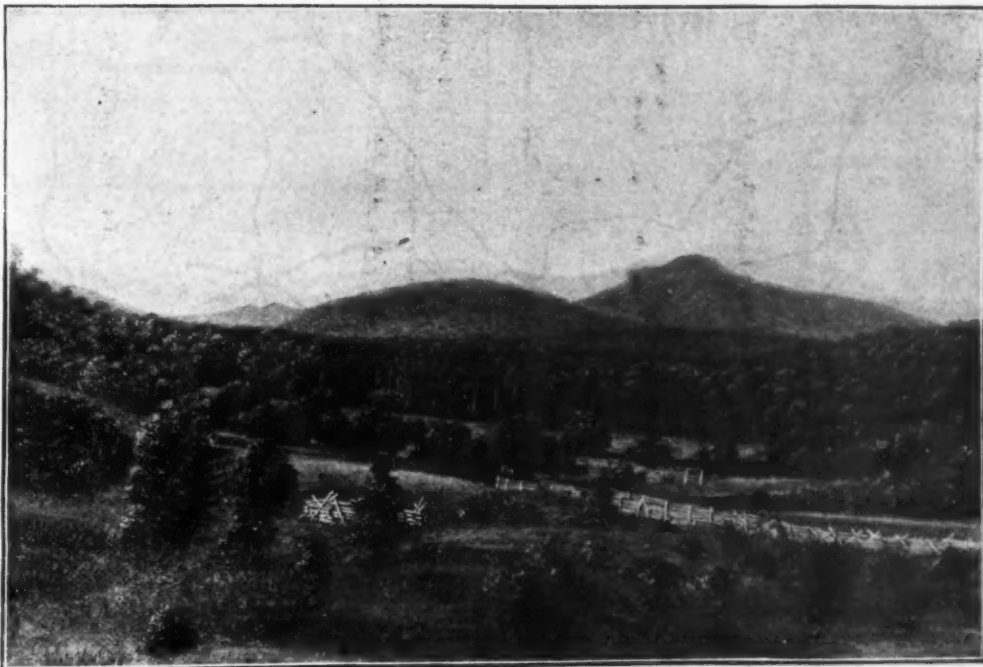
CHARLES F. MAYER, President.

The foregoing Report was unanimously accepted and approved.

The meeting then proceeded to the election of Directors for the ensuing year. The following gentlemen were unanimously elected to serve by a vote of 112,031 shares: James Sloan, Jr., William F. Burns, William H. Blackford, Aubrey Pearre, George deB. Keim, Wesley A. Tucker, Maurice Gregg, J. Wilcox Brown, William F. Frick, Geo. A. Von Lingen, George C. Jenkins, Charles J. M. Gwinn.

Messrs. George J. Appold, Samuel Stein and Thos. I. Carey acted as Judges of Election.





EMMONS AND GRANDFATHER MOUNTAINS FROM BELOW LINVILLE.

# NORFOLK, VA.

## THE GREAT SOUTHERN SEAPORT.

Attention of manufacturers and others seeking investment or establishment in the South is called to the following facts:

Norfolk has the most magnificent natural harbor of the Atlantic Coast, having no bar to block its entrance, being within 25 miles of the ocean, sheltered from all vicissitudes of weather, always free from ice, with sufficient depth of water for the deepest draft vessels.

Hampton Roads, at the confluence of the James and Elizabeth rivers with the Chesapeake bay, is easy of access, navigable for vessels of any size or draft.

It has been designated by Congress as the rendezvous for the navies of the world in 1892-'93.

A 26-foot channel, well marked with buoys and light houses, leads to the wharves of Norfolk, and above the city to the Navy-yard.

Seven broad-gauge and two narrow-gauge railroads, controlling an aggregate of over 17,000 miles, put Norfolk in connection with all the points reached by railroads in this country, and two

The water supply is derived from large lakes of spring water seven miles distant, good not only for household use, but admirably adapted for manufacturing purposes, being absolutely free from all those substances that corrode boilers.

The climate, tempered by the proximity of the Gulf Stream, is mild. There is hardly ever ice or snow to interfere with out-door work or exercise.

The city is lighted with electric lights, and has as fine a fire and police department as any in the country.

All denominations are well represented in churches. There are two good hospitals, one in charge of the Sisters of Charity, and the other under the Protestant organization of the city.

Educational advantages are excellent, there being a thorough system of public schools, together with numerous private seminaries for both sexes.

There are two good theatres, at which the best companies stop on their pilgrimages from the North to the South.

This is one of the largest pine lumber markets in the South; 350,000,000 feet were shipped in 1890.

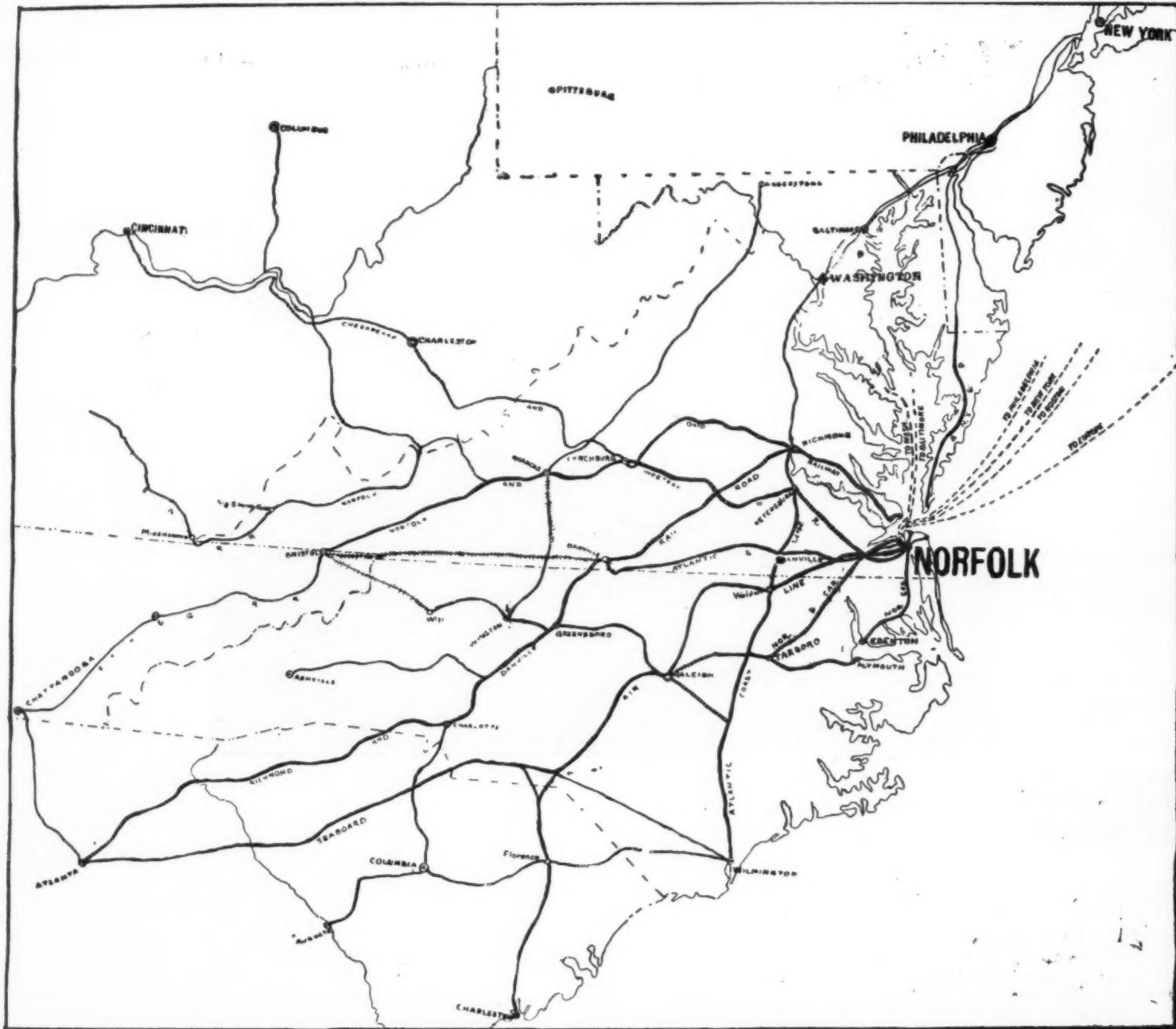
The best bituminous coal and coke are supplied by the C. & O. R. R. and N. & W. R. R.

Pig iron is delivered here by these two railroads.

Roller iron and all of its products can be promptly and cheaply freighted by water to all of the leading seaports.

600,000 bales of cotton are annually marketed here, which makes this the most desirable point for the manufacture of cotton goods in the United States, superior to inland towns throughout the cotton belt, because a factory located in these is dependent on the local product marketed in three or four months, after which it has to draw from distant points or carry a sufficient stock for the year, or if the quality or grade in the locality is unsuitable, it is subjected to the expense of freight from distant points; but Norfolk being a large cotton market, not only furnishes an assortment of grades and quality, but enables the manufacturer to purchase his stock all the year.

It is superior to other seaports from its accessibility to New York, Boston and other markets, or such supplies as the manufacturer frequently needs on short notice, while its railroad lines to the interior distribute goods to all points.



canals connect with the Sounds through the Carolinas.

First-class steamship lines ply to Boston, Providence, New York, Philadelphia, Baltimore, Washington, Richmond and other points on the Coast and Sounds.

Norfolk is within 20 hours of Boston by rail and 40 by water.

12 hours of New York by rail and 21 by water.

10 hours of Philadelphia by rail and 18 by water.

8 hours of Baltimore by rail and 12 by water.

7 hours of Washington by rail and 12 by water.

2½ hours of Richmond by rail.

23 hours of Cincinnati, and 34 hours of Chicago and St. Louis by rail.

A regular line of passenger and freight steamships ply to the Brazilian ports, and steamships, chartered mostly for the carriage of freight, ply to Liverpool and other European ports.

In 1883 the aggregate trade of Norfolk was placed at \$38,000,435, while five years later, in 1888, it had risen to \$65,011,656; in 1889 it increased to \$75,000,000, and in 1890 to \$100,000,000. The vessel tonnage of Norfolk in 1870 was 13,502 tons, cargoes valued at \$386,594; in 1880 it increased to 103,608 tons, valued at \$11,116,595; in 1887, 257,884 tons, valued at \$14,714,404; for the year 1890 the tonnage reached 582,846, valued at \$15,197,095.

It will be hard to find a parallel case in this country in two decades showing an increase of tonnage from 13,502 tons in 1870, valued at \$386,594, to 582,846 tons in 1890, valued at \$15,197,095.

The population of Norfolk, including Portsmouth, Berkley and other suburbs, is 70,000; the increase within the city limits has been 61 per cent. in the last ten years.

This increase, with the growth of business and enhancement of value in property of all kinds, is turning the attention of capitalists and investors to this point.

The City of Norfolk has a complete system of sewerage and is well paved.

The healthfulness of the climate, as exhibited by the death rate, is not surpassed by any city in the country, the percentage being in 1890 16.90 to the 1,000.

In addition to the manufacture of cotton and iron, there is at Norfolk opportunity for profitable manufacture of furniture and all articles made of wood, such as ash, oak, pine, poplar, cedar, cypress, juniper, gum, and for the manufacture of safes, stoves, hardware, sash, door and blinds, etc.

The cost of labor ranges from \$1 to \$1.50 per day for unskilled men, and \$2 to \$3 for skilled men; females 50 cents to 75 cents a day unskilled, and 75 cents to \$2 a day for skilled; boys 33 cents to \$1 per day; girls 25 cents to \$1.25 per day.

The above quotations are for white labor.

Unskilled negro labor can be employed at 80 cents to \$1 for men and 50 cents for women.

Norfolk has been exempt from those labor troubles and strikes which have characterized Northern manufacturing cities.

The surrounding country being the great vegetable-growing section of the seaboard, and the rivers and bays being filled with the finest fish and oysters, make living cheap and healthy.

Although in banking facilities Norfolk is fairly well supplied, there being nine banks with an aggregate capital of about \$1,000,000 and aggregate deposits of about \$5,000,000, there is, however, a good opening for another bank.

Norfolk offers a field for the establishment of jobbing houses in dry goods, boots, shoes, hats, caps, notions, drugs, tinware and all other kinds, excepting wholesale groceries, in which she is well supplied.

The country lying to the southward west of Norfolk furnishes the markets to which goods from here are distributed in exchange for cotton, corn, wheat, peanuts and other crops.

The NORFOLK INDUSTRIAL DEVELOPMENT CO. has been organized for the purpose of furnishing information and assisting the establishment of manufacturing enterprises.

Free sites can be obtained on the railroad lines around the city, and reasonable subscriptions will be made to the stock of manufacturing enterprises, provided they are meritorious, but no proposition will be entertained from any but bona fide concerns, using good machinery and stocked on a business-like basis.

Capital invested in machinery is exempted from taxation for ten years, and will probably always continue so.

For further particulars, address

WALTER F. IRVINE,  
SECRETARY NORFOLK INDUSTRIAL DEVELOPMENT CO.



# MINNEAPOLIS, VA.



*Minneapolis is Under the Management of GEN. THOMAS L. ROSSER, Builder of the Northern Pacific and Canadian Pacific Railways.*

## Resources.

Coal and Iron, both in Inexhaustible Quantity and Unexcelled Quality, In juxtaposition. In the Center of a District Composed of Five Counties, Containing More Timber Than Minnesota and Wisconsin Combined.

## Advantages and Attractions.

A Healthy and Beautiful Situation in a Valley 2,000 feet above Sea Level, Surrounded by Mountains.

Encircled by a Large Bold Stream, ample for Water, Drainage and Power.

The Crossing Point of the Norfolk & Western and the Three C's, the Future Great East and West and North and South Trunk Lines.

## INDUSTRIES FROM ALL SECTIONS

*Are now Seeking a Location at Minneapolis on Account of the Minimum Cost and Maximum Quantity and Quality of Raw Materials, the Fine Transportation Facilities and the Healthfulness and Beauty of the Site.*

JOHN M. WHITE, Treasurer,  
CHARLOTTESVILLE VA.



# The Winston Land & Improvement Company.

Charter granted by Act of Legislature, Session of 1887. Ratified March 4, 1887, Chapter 82.

Authorized Capital, - - \$1,000,000.

Present Capital Stock \$125,000. All Subscribed and Paid Up.

## OFFICERS:

G. W. HINSHAW, President, of Hinshaw & Medearis, Wholesale Merchants; Vice-President People's National Bank, Winston, N. C.  
DR. W. L. BROWN, Vice-President, of Brown Brothers, Tobacco Manufacturers, Winston, N. C.  
W. F. TROGDON, Secretary and Treasurer, North Wilkesboro, N. C.

## BOARD OF DIRECTORS:

GEO. W. HINSHAW, Winston, N. C.  
MAJ. CHANNING M. BOLTON, Chief Engineer Richmond & Danville Railroad, Washington, D. C.  
P. H. HANES, of P. H. Hanes & Co., Tobacco Manufacturers, Winston, N. C.  
COL. J. M. WINSTEAD, Cashier Piedmont Bank, Greensboro, N. C., and President H. P. Scales Tobacco Co., Atlanta, Ga.  
A. A. FINLEY, ESQ., Mayor of North Wilkesboro, N. C.

## ATTORNEYS:

T. B. FINLEY, ESQ., North Wilkesboro, N. C.  
HON. C. B. WATSON, Winston, N. C.  
HON. J. C. BUXTON, President First National Bank, Winston, N. C.  
HON. W. W. BARBER, Wilkesboro, N. C.

THE COMPANY OWNS THE NEW TOWNSITE OF

# NORTH WILKESBORO,

## NORTH CAROLINA,

Consisting of 1,036 acres, and also owns 4,100 acres of Mineral and Timber Lands in Wilkes County, which property is now being developed. Townsite purchased November 11, 1890. Property put on market at private sale and first lot sold May 12, 1891. North Wilkesboro chartered by the legislature March 4, 1891.

Forty-three buildings already on the townsite.

Already established, one large, handsome, well-furnished and well-kept Hotel; one Saw Mill, Planing Mill, Door and Sash Factory combined; two Saw and Planing Mills; two Brick-yards; one Tan-yard; one Newspaper, the "North Wilkesboro Progress." Charter was obtained from the last General Assembly for the Bank of North Wilkesboro; the capital stock, \$50,000, has been subscribed, and bank will open for business as soon as the bank building can be completed; ten Stores and one large Livery Stable.

Ten miles of streets graded.

Manufacturing sites will be donated and stock subscribed to such legitimate enterprises as may be advantageously located here.

North Wilkesboro, 75 miles west of Winston-Salem, on the Northwestern North Carolina Railroad, is the most important trading point between Winston-Salem and Bristol,

Tenn., and is in the center of the great undeveloped mineral and timber district of Northwestern North Carolina, being by United States postal map, on an air line, 75 miles southeast of Bristol, Tenn., 45 miles east of Cranberry, N. C., 40 miles north of Statesville, 45 miles northeast of Hickory, 90 miles northeast of Asheville, 45 miles southwest of Mt. Airy, N. C., and 80 miles north of Norfolk & Western Railroad, in the Valley of the Yadkin, between the Bruohy mountains on the South and Blue Ridge on the north. The best located, watered and drained town in North Carolina.

Her climate is of unsurpassed salubrity and healthfulness. Fresh water and mineral springs abound, and the 328 miles of water courses in Wilkes County furnish a water power of almost incalculable magnitude.

Home seekers, health seekers, and wood and iron manufacturers, will do well to investigate North Wilkesboro's advantages.

PLATS, PRICES AND ANY DESIRED INFORMATION PROMPTLY FURNISHED ON APPLICATION TO

W. F. TROGDON, Secretary and Treasurer,

NORTH WILKESBORO, N. C.



ALEX. A. ARTHUR,  
President.

FRANK WATTS,  
Vice-President.

JOHN B. CARY,  
Secretary and Treasurer.

# The Middlesborough Town Company.

Capital - - \$3,000,000.

OFFERS TO

Manufacturers, Merchants, Bankers, Investors,

AND TO ALL OTHERS SEEKING A LOCATION TO BUILD

Factories, Foundries, Stores, Warehouses, Repositories, &c.,

REASONABLE INDUCEMENTS TO SELECT

# Middlesborough, Ky.

AS A PLACE OF

RESIDENCE OR FOR BUSINESS.

Her Mineral and Timber Wealth is Unbounded and Inexhaustible.

Her Location is Unequaled.

Her Climate is Unexcelled in this Country.

Her Growth and Marvellous Development Stand Unparalleled in History.

Her Industries, Manufactories and Commerce aggregate the sum of \$21,000,000 of Capital actually invested.

She Enjoys Postal, Telegraph, Express, Banking and Insurance Facilities with all the Business World.

She has easy Communication by Rail with all Sections of the Country.

She has better Coking Coal than can be found elsewhere.

She is only Two Years Old and already has a Population of 8,000 People.

She has already two large Iron Furnaces completed, an immense Steel Plant, a mammoth Tannery in operation, a Brewery, Cold Storage and Ice Manufacturing Plant, Gun and Heavy Ordnance Works, a Telephone System, a Belt Railroad twenty-three miles long, an Electric Street Car System, Water Works, Electric Lights and hundreds of smaller plants of every description.

FOR ILLUSTRATED BOOKS, CIRCULARS AND ALL OTHER INFORMATION, ADDRESS

JOHN M. BROOKS, - Resident Manager,

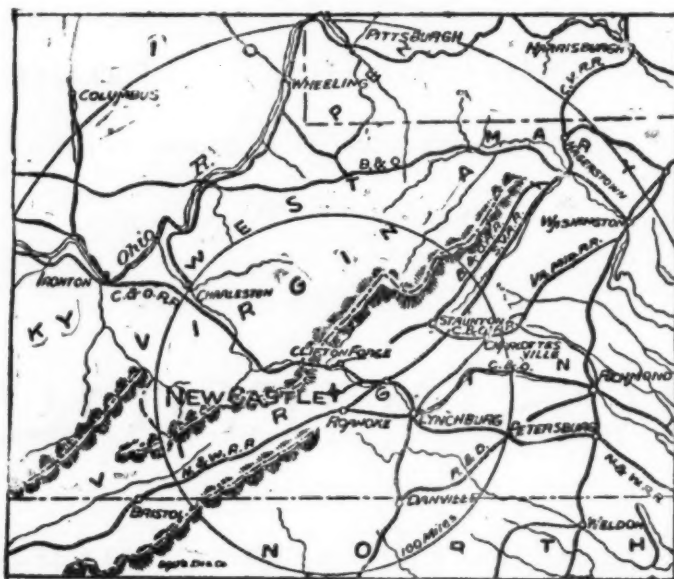
MIDDLESBOROUGH, KY.

# NEW CASTLE, <sup>Craig</sup> County, VA.

## • THE IRON BONANZA, •

Convenient to Fuel Supply.

*A City of Immense  
Possibilities without  
a Rival in all that  
goes to Create  
Wealth and Power.*



*A Home for Invalids  
in which to  
Lengthen out their  
Lives, and for all  
to be and Remain  
Healthy & Happy.*

*PARADISE OF THE HUNTER AND HEALTH SEEKER.*

**Future City of the Alleghanies and  
Center of Iron Production.**

**Commodious Hotel for the Entertainment of Summer Guests.**

**2,000 TOWN LOTS FOR SALE.**

FOR INFORMATION ADDRESS

**A. E. HUMPHREYS, Prest., New Castle, Va.**



—: ALL EYES ARE UPON :—

# NEWPORT NEWS.

Unequalled Natural Advantages and Unlimited Capital Combined for  
the Upbuilding of a Great Seaport City.

## THE NEWPORT NEWS COMPANY,

Having acquired a large body of land—the  
best in the entire Newport News section—and  
having platted the same, now offers for sale at  
moderate prices and on easy terms

## Choice Villa Sites Building Lots,

Which will be made readily accessible by the  
completion of the electric railway between  
Newport News, Hampton and Old Point.

This property is situated on a plateau  
looking out upon Hampton Roads, one of the  
finest harbors in the world.

It is only a few minutes' ride from the  
business center of Newport News, whose won-  
derful and substantial growth is attracting  
world-wide attention.



## BUY LOTS AT FIRST PRICES.

PRICE-LIST FURNISHED ON APPLICATION.

L. P. ROUTT, - - General Agent, - - Richmond, Va.

# ELKTON, VIRGINIA.

IN THE WORLD-FAMED SHENANDOAH VALLEY.

Presents to-day the Best Opportunities for Safe and Profitable Investments to be Found in Virginia.

In one short year it has grown from a mere hamlet to a town of nearly 900 souls.

When factories now in course of construction are all in operation, at least 1,200 people will have their homes in Elkton.

Our industries are numerous and varied.

We do not depend on any one big concern to make or break us.

The immense TIMBER SUPPLY gives employment to a number of Saw Mills and Planing Mills and Lumber Yards.

We have also a Sash, Door and Blind Factory,

A Steam Bark Mill (under construction),

A New Roller Mill, 100 barrels daily capacity,

A Large Tannery,

Steam Brick Works,

A Cannery (contracted for),

Wagon and Spoke Factory (under construction),

A Large Cutlery Factory, nearly completed, which will employ at least 50 hands, and which will begin work in June.

Besides, are the various minor industries to be found in every town, such as Blacksmith, Harness, Wheelwright, Carpenter, Cabinet Makers, Tinnners, Plumbers, Etc., Etc.

A Water Company supplies pure Lithia Water through a complete system of pipes to all residences and stores desiring it.

#### RATES:

For Single Days, . . . \$2 to \$3  
Weekly Rates, . . . \$9 to \$15  
Monthly Rates, . . . \$25 to \$50  
Special Rates to Ministers.



THE ELKTON HOTEL.

Rooms May be Engaged and  
Prices Fixed by Applying to

**C. P. WALTERMIRE, Manager.**

June 22, 1891.

The Finest Hotel in Virginia, "THE ELKTON," is here. Run under the management of the Elkton Improvement Company.

Lighted by gas, supplied with pure lithia water in unlimited quantity, and with all modern conveniences.

Investors will find our property priced so as to insure profits.

NO FANCY PRICES have been asked, but values will be confined to ACTUAL WORTH.

We invite Investors, Home Seekers, Tourists, Business Men, Manufacturers, small and great, to COME TO ELKTON.

FOR PARTICULARS ADDRESS

## THE ELKTON IMPROVEMENT COMPANY,

**E. P. H. MILLER, President.**

**S. C. SPENCER, General Manager.**

**THOMAS K. HARRISBERGER, Secretary & Treasurer.**



# As A LOCATION for Manufactures

Of Iron and Wood and for General Industrial and  
Business Enterprises,

## FRONT ROYAL, VA.

INVITES INVESTIGATION.

---

Its location, at the junction of the Norfolk & Western Railroad (Shenandoah Valley line) and the Richmond & Danville's branch, give it excellent transportation facilities. It is only a few hours' ride distant from Washington.

The Norfolk & Western's direct line to Washington will be built from Front Royal.

---

*There is no Finer Agricultural Country in the World than the Famed Shenandoah Valley, in which Front Royal is Located.*

---

A WIDE RIVER WITH SWIFT CURRENT FURNISHES WATER POWER  
AND MAKES DRAINAGE PERFECT.

---

Front Royal is a Prosperous Town, with an Extensive Mercantile Business  
and Many Manufacturing Enterprises in Operation and  
Under Construction.

---

INVESTIGATION OF ITS ADVANTAGES IS INVITED BY THE

Front Royal--Riverton Improvement Company,  
FRONT ROYAL, VIRGINIA.

# WINSTON-SALEM,

— NORTH CAROLINA, —

Has ONE FACTORY for Nearly Every ONE HUNDRED of Her  
16,000 Population.



Pay Roll \_\_\_\_\_

of the factories alone one million dollars a year, all cash.

This is the Basis \_\_\_\_\_

on which Winston-Salem is built, and yet the resources of the  
surrounding country are only meagrely developed.

North Carolina \_\_\_\_\_

never has had a boom, and yet she is an epitome of every-  
thing excellent in the way of soil, climate, minerals, timber  
and water-power which the United States contains.

"The Next Big Development \_\_\_\_\_

in the South will be seen in North Carolina."—*Consensus of  
Public Opinion.*

That Winston-Salem \_\_\_\_\_

is easily the most important manufacturing city in the State  
no one pretends to question.

If You Want \_\_\_\_\_

to make a real estate investment or a business undertaking in  
a live town you can do no better than come to Winston-Salem  
right now.



THE

# WINSTON-SALEM LAND & INVESTMENT CO.'S First Public Sale of Lots

OCCURS

**TUESDAY, NOVEMBER 24, 1891.**

**100 Residence and Business Lots and Manufacturing Sites**

WILL BE OFFERED AT PUBLIC AUCTION.

Thirty Lots are Immediately on the Electric Street Car Line and Macadamized Streets. Seventy Lots are Within One Hundred Yards of the Street Car Line and Macadamized Streets.

Upon notification, intending purchasers will be given an opportunity to bid on any lot anywhere in the addition, but unless so specially requested, simply the 100 lots above mentioned will be offered.

## REDUCED RATES ON ALL RAILROADS.

The Company has spent \$80,000 in cash in developing its lands.

Main Street, the chief business and residence thoroughfare of the city, has been extended by a straight line through the property.

A mile and a half of Electric Street Railway (Sprague system) runs through the property. Fare to any part of the city, 5 cents.

Property supplied with Electric Lights and Water Works. Main Street through the property Macadamized.

The iron bridge across Wachovia Brook, 108 feet long, 55 feet wide, cost \$14,000.

Sixty thousand dollars' worth of lots sold at private sale to residents of Winston-Salem.

Many handsome residences are in course of construction.

The "Sunny Side" Social Club, composed largely of

business men in Winston-Salem, is now building a club house on the property.

## TERMS OF SALE:

One-fourth cash, balance in 12, 18 and 24 months, 6 per cent. interest.

The Preferred Stock of the Winston-Salem Land & Investment Company will be accepted at \$110 for deferred payments.

Come and see the liveliest town in North Carolina and invest your money in the best property offered this year.

**N. B.**—Nobody has ever yet failed to make good money out of Winston-Salem real estate.

No city to create.

No industries to build up which may bring a business and population.

No great discount of the future.

We offer an opportunity to invest where wealth and immense business interests already exist, not as a result of capital from abroad, but as the outcome of individual enterprise and energy of native-born citizens, who have developed their own resources in a remarkable manner.

Correspondence invited.

**WINSTON-SALEM LAND & INVESTMENT CO.**

NO OTHER TOWN IN THE SOUTH

*CAN SHOW THE SAME AMOUNT OF*

STEADY IMPROVEMENT

*DURING THE RECENT DULL TIMES AS CAN*

RUTHERFORDTON.

NORTH CAROLINA.

---

POPULATION:

750 in 1890.

1,500 in 1891.

WILL SOON BE A CITY OF 5,000 INHABITANTS.

---

"MORE NEW HOUSES THAN OLD ONES IN RUTHERFORDTON."

---

The Finest All-The-Year-Round Climate Under the Sun.

*Real Estate Men*

**ATTENTION.**

WE OFFER YOU

Splendid Opportunities for Investment.

RUTHERFORDTON

Acre Property

SUITABLE FOR

SUB-DIVISION,

ALSO

LOT PROPERTY IN BLOCKS

AT LOW PRICES.

The Property of the Gleghorn Co.

Surrounds the present Business and Residence portion of RUTHERFORDTON on all sides and includes business property on Main Street.

REAL ESTATE MEN SEEKING A  
PROFITABLE LOCATION IN A NEW FIELD

SHOULD CORRESPOND WITH

**J. IMATHEWS, Secretary,**

RUTHERFORDTON, N. C.



# DO YOU WANT A MANUFACTURING SITE?

Come to **RUTHERFORDTON, N. C.** and Select it.

## The Gleghorn Land & Mfg. Co.

MEANS BUSINESS.

Everything to Offer the Man of Business and the Man Who Seeks a Home.

NO BETTER PLACE FOR MANUFACTURING OR TO LIVE.

Address **J. MATHEWS, Secretary Gleghorn Company, RUTHERFORDTON, N. C.**

**11,500 ACRES**

**Hardwood Timber Lands,**

**\$3, \$4 AND \$5 PER ACRE.**

**CHOICE TRACTS,**

Selected from over 100,000 acres of Western North Carolina  
Lands, suitable for

**LUMBERING, FARMING,**

**FRUIT GROWING,**

**SHEEP RANCHES,  
COLONIZATION.**

**7,000 ACRE TRACT**

**AT \$3 PER ACRE.**

This tract is in Western North Carolina, and has been variously estimated by different millmen to cut from 6,000 to 12,000 feet of oak, poplar, chestnut and hickory. Reckoning the stumpage at \$1 per 1,000 feet, and at the lowest estimate there is a hundred per cent. profit in the stumpage alone. Two-thirds of the land, when cleared, is of value for agriculture. The tract is in the heart of the so-called "Fruit Belt" of the South, and is in a section of country that is rapidly being developed by the cotton and sugar planters. Vanderbilt is building a million-dollar palace. An all-the-year-round climate that is unsurpassed on earth. Seven miles from one railroad, eight from another. Title guaranteed. Claim from 1793 to date.

JUST THE TRACT UPON WHICH TO

**LOCATE A COLONY.**

**4,500 ACRES AT \$5.**

This tract is three to seven miles from a railroad, with main body of timber four to six miles from a road, and the chance for logging railroad all the way. Perfect title.

**For Investment Nothing is Safer**

OR MORE

**Certain to Bring Large Returns**

THAN ARE

**SOUTHERN TIMBER LANDS**

**AT THESE LOW PRICES.**

ADDRESS

**J. MATHEWS, Secretary Gleghorn Company,  
RUTHERFORDTON, N. C.**

# OF INTEREST TO INVESTORS.

An Investment in **FLORIDA PHOSPHATE MINING**, Offering a CONSERVATIVE INVESTMENT Combined with an Unparalleled Opportunity for PROFITS.

## THE LA PIERRE PHOSPHATE COMPANY,

of BOSTON, MASS., and TALLAHASSEE, FLA.

Now offers for sale its **8% PREFERRED STOCK** in shares of \$100 each AT PAR, with the following SPECIAL INDUCEMENT:

In order to acquire IMMEDIATE CAPITAL for the rapid development of its property, the Company will FOR A LIMITED TIME ONLY, give as a bonus with each share of Preferred Stock sold, FIVE SHARES OF COMMON STOCK, with the sole restriction that such Common Stock shall be surrendered to the Company at any time within one year from date of original purchase upon tender, by the Company, of FIVE HUNDRED DOLLARS PER SHARE.

**CAPITAL \$1,500,000, full-paid, divided as follows:**

\$500,000 8 per cent. Preferred Stock; \$100—par.

\$1,000,000 Common Stock; \$100—par.

## PROSPECTUS.

### ORGANIZATION.

The Company has been organized under the personal supervision of the well-known law firm, Balch & Rackemann, Counsellors and Conveyancers, of Boston, and Mr. John W. Weed, of New York, a well-known Attorney. Mr. B. C. Mudge, the President of the company, is a man of unquestioned executive ability and experience, having successfully established systems of water works in many of the prominent cities and towns of New England. He has also recently refused a flattering offer to take charge of the construction of a proposed railroad in order to give his entire attention to the development of the company's property. He is now located at the mines where he will devote his time to the interest of the company. Mr. F. E. Owen, the Treasurer, formerly connected with the Boston Post Publishing Co., which position he resigned to accept the Treasurership of this company, is well-known among his large circle of business acquaintances as a man of strict integrity and large experience in financial and business affairs.

The titles to the property are perfect, and the property is absolutely owned by the company, being entirely clear and free from all encumbrance with the exception of \$30,000 7 per cent. ten year Gold Bonds, which have all been placed; the entire proceeds being devoted to the purchase of the property.

### PROPERTY.

The property owned by this Company is situated in Leon County, Florida, two and one-half miles west of Tallahassee on the Florida Central & Peninsular Railway, three-quarters of a mile north of the railway. A railway in course of construction, the Gainesville & Tallahassee, will pass direct through the property if given the right of way. The Florida Central & Peninsular Railway has a branch which puts the property within seventeen miles of tidewater at St. Marks, Florida, and other railways are in contemplation. The property consists of sixteen hundred and a xy-nine acres of upland in one body, about one and three-quarters miles long by three-quarters of a mile wide. It is nearly all cleared, and in good condition for agricultural purposes.

### PHOSPHATE DEPOSIT.

The Phosphate Deposit, as indicated by pits and borings, is one-half of a mile wide, and extends throughout the entire length of the property. There are now three open pits or shafts on the property, two in the middle, about one thousand feet apart, across the width of the deposit, and one three-quarters of a mile northwest of these, near the northwest end of the property. These shafts are six feet square, and go to a depth of sixty feet. There have been also at least fifty borings made in all parts of the deposit, which show in a general way the following deposit of phosphate of lime:

**The First Stratum**, called purple rock, is seven and one-half feet from the surface. This stratum is 17 feet thick. It is a low grade, averaging about 55 per cent. Bone Phosphate of Lime without washing or separation. It requires separation to eliminate the sand, thus making a high-grade phosphate of about 72 per cent. This is not regarded at present as being of great value. Below this stratum is found white sand seven feet thick, and then fire-clay, available for all purposes that such material is used for, four feet thick.

**Second Stratum** is a soft Phosphate 4 feet thick, of a high-grade, running about 73 per cent. Bone Phosphate of Lime. Immediately below this is the

**Third Stratum** of granulated Bone Phosphate, analyzing about 55 per cent. Bone Phosphate of Lime crude, and 70 per cent. washed. This is a wonderful deposit, being already ground by nature, and can be used as a fertilizer just as it is taken from the earth. Next below this is the

**Fourth Stratum** of fine Hard Rock Phosphate, 12½ feet thick, and analyzing over 75 per cent. Bone Phosphate of Lime crude, with only 35-10 of 1 per cent. oxide of iron, and 22-00 of 1 per cent. alumina. This is the finest and principal stratum, having, as further compensation for its depth, greater uniformity in quality and the absence of pockets, showing a reliable and continuous stratum throughout.

### AMOUNT OF PHOSPHATE.

The amount of phosphate on this property is practically unlimited, having been estimated by Prof. Lawrence C. Johnson, of the U. S. Geological Survey, who has personally investigated this property, as being between 60,000,000 and 100,000,000 tons, including all grades. There is no water to interfere with working, all being above the fire-clay, or practically surface water.

### ESTIMATED PROFIT.

The present price for high-grade phosphate on the English market is 11d., or 22 cents per unit or per centum per ton, or for 70 per cent. grade, the price would be \$15.40 per ton. Allowing 50 per cent. of this value for cost of mining, handling, transportation, insurance, brokerage, etc., which is liberal in the extreme, leaves a net profit of about \$7.70 per ton.

This does not include the granulated or ground bone phosphate stratum of the same surface dimensions, but eight feet thick; nor the upper stratum, which is 17 feet thick. The expense of mining the phosphate is certainly less than mining coal, as there is no blasting, or water to contend

with, and has never been estimated to exceed 50 cents per ton, and the practical working of other well-known companies shows this estimate to be conservative.

### INCOME ANNUALLY.

With our three separate sets of hoisting machinery, each with its own boiler and appurtenances, and capable of lifting 3,000 pounds per trip, one hundred tons of phosphate is a very low estimated output daily for each shaft; in fact, two hundred tons per day per shaft may be considered fairly reasonable. Assuming, however, that 300 tons per diem are mined and sold at a net profit of \$7.50 per ton, produces an income of \$2,250 per diem, or for 300 days \$600,000 net, which leaves 8 per cent. on the \$500,000 preferred stock, and over 53 per cent. on the common stock. This is not, in any sense, excessive estimation, and can be borne out in fact by reference to other companies not as favorably located, nor possessing such a large amount of high-grade phosphate.

### MARKET FOR PRODUCT.

The demand for high-grade phosphate is practically unlimited, not only in the United States, but throughout the continent of Europe, phosphoric acid being the basis of all vegetable growth, and the main constituent of all fertilizers. The world's consumption of phosphate, which must be an indispensable article of commerce until that probably distant day when the chemist shall manufacture in the laboratory what the agriculturist now grows in the field, is rated at 1,500,000 tons, and increases annually at the rate of 25 per cent. or 30 per cent. In five years 4,000,000 tons will be required, and in twelve years 12,000,000 or more will be required to supply the market for the season.

Since the abandonment of the Canadian fields there remains the product of the States of South Carolina and Florida as the chief sources of the world's supply, and with South Carolina rock averaging about 57 per cent. bone phosphate, and costing some \$3.50 per ton to mine, as against 70 per cent. to 80 per cent. bone phosphate, and a cost of only 50 cents per ton to mine in Florida, it will not be long before the latter State will maintain absolute supremacy, if, in fact, she does not hold it to day.

### QUALITY OF LA PIERRE ROCK.

In relation to the quality and grade of phosphate produced by the La Pierre Phosphate Company, Messrs. Stillwell & Gladding, chemists to the New York Produce Exchange, and, doubtless, among the highest authorities as phosphate chemists, state the following, over their signature, and after a careful analysis of our product:

"We have no hesitation in pronouncing this phosphate a high-grade article of the highest commercial and manufacturing excellence. Very truly,

STILLWELL & GLADDING."

### BENEFITS OF FERTILIZERS.

It is estimated that the introduction of phosphatic manures has increased the product of cotton in the South from 4,000,000 to about 8,000,000 bales. The increased yield of an acre sowed with wheat, and properly dressed with fertilizers, has been phenomenal, more than doubling the bushels per acre, and in some instances many fold.

### TRANSPORTATION FACILITIES.

The Florida Central & Peninsular Railway Co. are affording this company every facility they can for the cheap transportation of the phosphate, and have erected large store-houses and elevators at Fernandina, Florida, for the ready handling of same for shipment to foreign and domestic markets. Two other roads are now being constructed to reach this property, thus guaranteeing competitive rates. Direct shipments can be made from Tallahassee to all parts of the United States and Europe, and the facilities are all that could be desired.

### FACTS AND PROSPECTS.

With such an enormous tract as this company possesses, situated within three miles of the capital of the State; within one mile of a trunk line railway, and with a spur track connection; with two other railways striving to compete for business; with a large quantity of high-grade phosphate for the foreign market, and a large amount of medium-grade for the American market; with every facility for mining at a remarkably low price; with no expensive pumping to contend with; with an enormous profit for the product, the demand for phosphates, in the present methods of high agriculture, increasing more rapidly than the supply; and with honest management, there would seem to be nothing wanted to ensure immediate and complete success, rendering the stock of the company not only very valuable, but commanding a premium for generations to come.

## LA PIERRE PHOSPHATE COMPANY,

Incorporated under laws of West Virginia.

B. C. MUDGE, President.

F. E. OWEN, Secretary and Treasurer.

BOSTON OFFICE, 738 EXCHANGE BUILDING.

THE OLD COLONY TRUST COMPANY, of Boston, whose statement we append below, is Trustee for Bondholders and Transfer Agent for the Stockholders.

STATEMENT—AUGUST 1, 1891.

Assets.		Liabilities.	
Loans.....	\$3,529,399 47	Capital Stock.....	\$1,000,000 00
City and other Bonds at or under par.....	389,295 19	Surplus.....	500,000 00
Deposit Vaults.....	62,714 35	Undivided Profits and Interest.....	112,588 70
Expenses Paid.....	11,918 93	State Tax.....	11,000 00
Cash on hand.....	210,419 97	Deposits.....	3,542,576 52
Cash in Bank.....	962,417 31		
	<u>\$5,166,165 22</u>		<u>\$5,166,165 22</u>

APPLICATIONS FOR STOCK OR FOR INFORMATION CONCERNING THE PHOSPHATE COMPANY SHOULD BE ADDRESSED TO THE TREASURER



# THE EGAN COMPANY,

228 to 248 West Front St.  
CINCINNATI, OHIO, U. S. A.

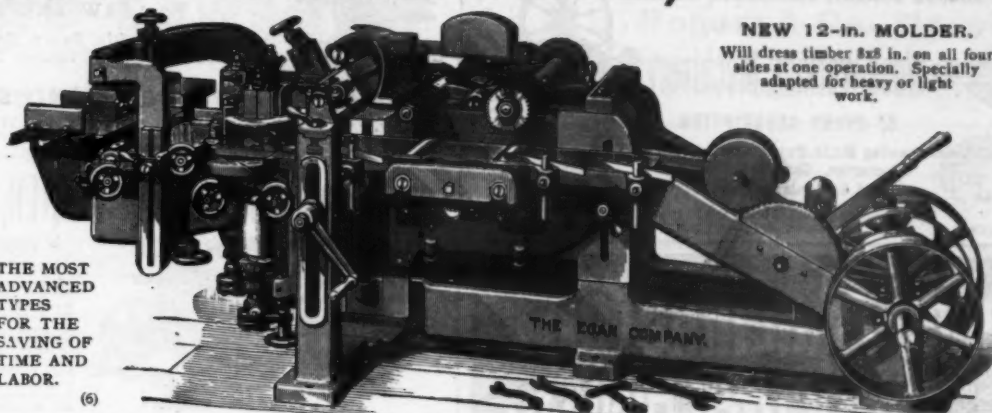
ORIGINATORS and Builders of

## Wood Working Machinery

The Most Recent Ideas for Fast  
and Perfect Work.

THE MOST  
ADVANCED  
TYPES  
FOR THE  
SAVING OF  
TIME AND  
LABOR.

(6)



NEW 12-in. MOLDER.  
Will dress timber 8x8 in. on all four  
sides at one operation. Specially  
adapted for heavy or light  
work.

THE LARGEST LINE  
IN THE U. S.

COMPLETE CUTTINGS OF  
Single Machines Supplied  
For Planing Mills,  
Sash, Door and Blind  
Work; Furniture,  
Chair Factories; Car,  
Railway and Agricul-  
tural Works; Buggy,  
Carriage and Wagon  
Builders; Spoke,  
Wheel and Handle  
Factories; Pattern  
Shops and General  
Workers.

Send for Catalogue or  
State Your Wants.

## E. C. ATKINS & CO., Indianapolis, Ind.

BRANCH HOUSES: Memphis, Tenn.  
Minneapolis, Minn.  
Chattanooga, Tenn.

MANUFACTURERS OF

## Circular, Band, Gang, Drag and Cross-Cut Saws.

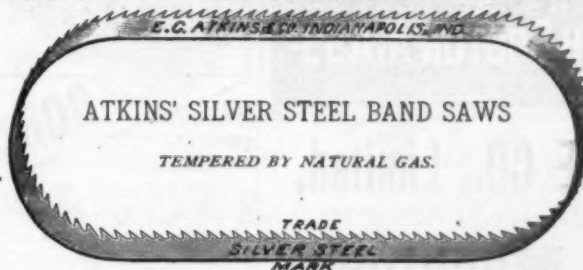
MADE FROM SILVER STEEL.

TEMPERED BY NATURAL GAS.

EACH SAW WARRANTED.



Cylinder  
Saws  
Re-Stepped.

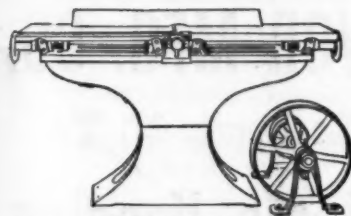


Repairing  
Promptly  
Done by  
Skilled  
Workmen at  
Factory or  
Branch  
Houses.

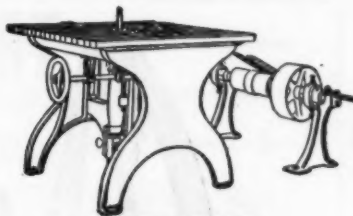


ALSO A FULL LINE OF MILL SUPPLIES.

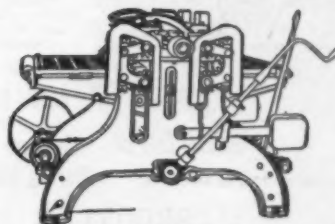
Write for Sawyer's Hand-Book, Saws and Saw Tools, and our Prices.



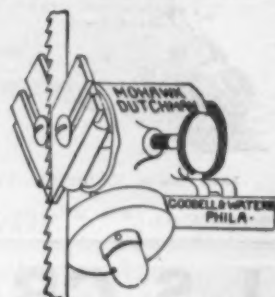
BUZZ PLANER.



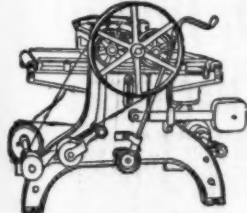
UPRIGHT SHAPER



24" SINGLE SURFACER.



The celebrated "MOHAWK"  
DUTCHMAN"  
BAND SAW GUIDE.



FINISHING PLANER.

## GOODELL & WATERS,

3002 Chestnut Street,

PHILADELPHIA, PA.

WESTERN BRANCHES:

227 W. 12th St., Chicago. 29 Spear Street, San Francisco.

Designers and Builders of  
Wood-Working Machinery.

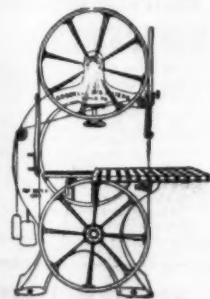
SEND FOR CATALOGUE. Kindly address the office nearest to you.

Acknowledged by all authority  
as the best.

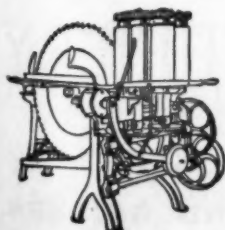
Send for a copy of  
"THE SECRET OF  
SUCCESSFUL BAND  
SAWING."

Every Band Sawyer should  
read it.

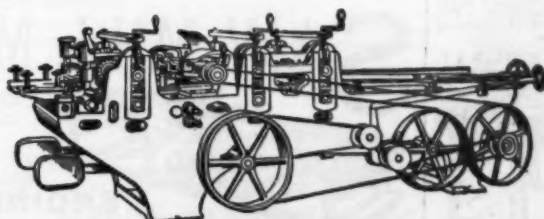
Mailed free upon application.



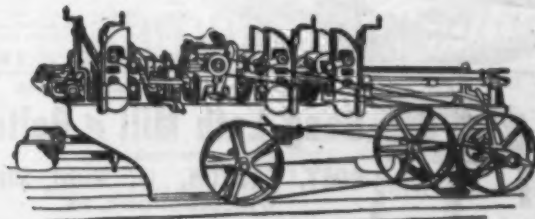
No. 3 36" BAND SAW.



RESAW.



KEYSTONE RAPID FLOORER.

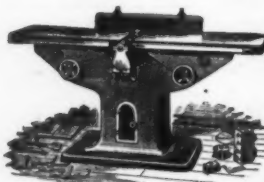


No. 12 24" PLANER AND MATCHER.

**CORDESMAN, MEYER & CO.**

171 &amp; 173 W. SECOND STREET, CINCINNATI, OHIO.

FINE GRADES OF LATEST



UNIVERSAL WOODWORKER.

**Wood-Working Machinery**

OF EVERY DESCRIPTION.

Planing Mills, Furniture and Chair Factories, Carriage, Wagon and Agricultural Works.

Write for our latest catalogue and price list. Correspondence solicited.



NO. 2 HAND SAW.

**S. A. Woods Machine Co.**

MANUFACTURERS OF PATENT &amp; IMPROVED

**WOODWORKING MACHINERY**

ESTABLISHED 1854

**PLANING AND MOULDING MACHINERY.**

A SPECIALTY FOR 35 YEARS



WORKS AT SOUTH BOSTON, MASS.

172 HIGH ST. BOSTON - 91 LIBERTY ST. N.Y. - 6150 CANAL ST. CHICAGO

**GLEN COVE MACHINE CO., Limited,**

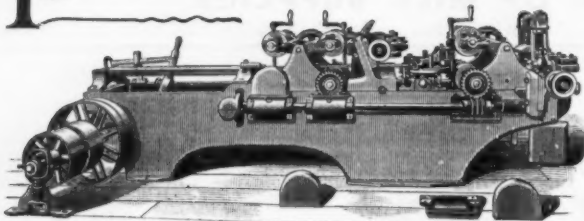
Manufacturers of Improved

**Planing Mill Machinery,**

PATENTED.

SCREW FEED Planing and Matching Machines and Moulding Machines.

Also the Celebrated Double Decker, AND Glen Cove Special Flooring Machines.



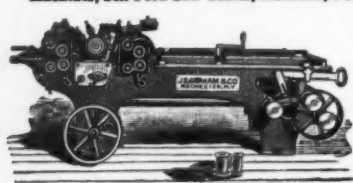
BACK VIEW OF SCREW-FEED PLANING AND MATCHING MACHINE.

Office and Works: { 24, 26, 28, 30, 32 and 34 } CLAY STREET, BROOKLYN, N. Y.

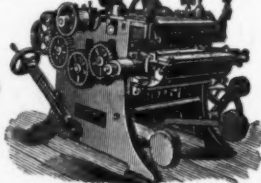
**J. S. GRAHAM & CO.**

261 LYELL AVENUE, ROCHESTER, N. Y.

Manufacturers of Planers and Matchers, Surfaces, Timber Planers, Resawing Machines, Gang Rippling Machines, Self-Feed Saw Tables, Moulders, Pony Planers, Etc.



SEND FOR PRICES.

**Brandon Variety Woodworker.**

This machine is designed and constructed in such a manner as to combine in a simple and compact form all the essential points of a first-class dimension saw, single spindle reversible shaper, and boring, galling, mortising or routing machine. The arbor is arranged to work at any angle, from horizontal to vertical, with reverse motion, and can be adjusted while running. It is especially adapted to a wide range of work, the changes being quickly made. THE MATERIAL TO BE OPERATED UPON ALWAYS LIES FLAT on the table and the arbor brought into position to do the required work, thus doing away with all toggling up of the material on jacks, &c. All kinds of mortising and routing, &c., is done on this machine, and it is so arranged that the material can be worked above or below on either side of the arbor. This machine is built in three styles. No. 1, A Full Combination. No. 2, As Saw and Shaper. No. 3, as a Finishing Saw. For full particulars and prices address

THE VICTOR MFG. CO., 6 W. FERRY ST., BUFFALO, N. Y.

These Cuts represent the Latest Improved

**Gang Lath Mill & Bolter**

MANUFACTURED BY

ROBT. EASTON, 157 Market Street, WILLIAMSPORT, PA.

WRITE FOR PRICE LIST AND DISCOUNT.



FOR THE LATEST IMPROVED

**Wood Working Machinery**

For SAW AND PLANING MILLS,

Such as Gang Rip Saws, Self-Feed Saws, Swing Saws, Panel and Buzz Planers, Door Clamps, &amp;c., send to

**United States Machine Co.**

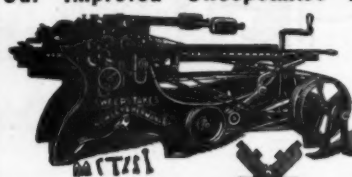
WILLIAMSPORT, PA.

Correspondence Solicited.

Circulars on application.

**Our Improved Sweepstakes PLANER, Matcher and Moulder**

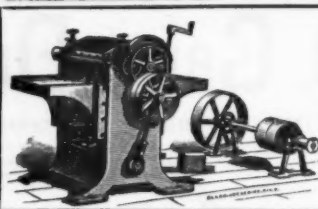
Is Simple, Strong and Durable. Never fails in Yellow Pine or Hard Lumber.



Recent improvements make it the most complete Planer, Matcher and Moulder in the market for the money, which is attested by daily testimonials. No other Planer and Matcher made that uses the Ellis Patent Three-Part Journal boxes. It has an extra Head and Arbor for making Mouldings and all odd work. Two Belts drive the Top Cylinder. All Cutter Heads are made of Cast Steel. All Expansion Links and Gears are BUSHED with BRASS. It has a POWERFUL FEED. Heavy countershaft furnished with each machine. Write for special prices; also for our 80-page catalogue, showing a full line of Sash, Door, Blind and Furniture Factory Machinery made by us. Address

**ROWLEY & HERMAN, Williamsport, Pa., U. S. A.**

Price: { To plane with top head 24" wide, under head 20" wide & match 12 1/2" wide, wt. 3,500 lbs. \$590  
 " " " 24" " and match 12 1/2" " " weight 3,000 lbs. 470  
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CATALOGUE AND PRICES WILL BE SENT ON APPLICATION.

WHAT IS SAID OF OUR MACHINERY AT THE NAVY YARD.

We manufacture Wood Working Machines of every description. All our machines are tested before shipment and guaranteed to give perfect satisfaction.

NAVY YARD, KITTERY, ME.  
 Gentlemen—Your machinery works admirably.  
 J. W. BROOK,  
 Master Joiner.

**CORDESMAN MACHINE CO.**

26 to 36 Butler St., Cincinnati, O.

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Successors to TREVOR &amp; CO.

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HEADING SAWING MACHINES,  
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 HEADING JOINTERS,  
 VENEER CUTTING MACHINES,  
 STAVE EQUALIZERS,  
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SHINGLE JOINTERS,  
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**HANDLE MACHINERY.**

Lathes for turning handles for Brooms, Mops, Forks, Hoes, Axes, Picks, Hammers, Cast Hooks, and for Ball-Bats, Peavy-Stocks, Pike-Poles, Spokes, Etc.

If you want machinery for Staves, Heading, Shingles or Veneer Cutting, send for our catalogue "A." If you want Handle Machinery, send for catalogue "B."

Please say where you saw this advertisement.  
 (Improved Law's Patent Heading and Shingle Sawing Machine)

**JEROME MOLTZ, WILLIAMSPORT, PENNSYLVANIA.**

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**SAW MILL MACHINERY**

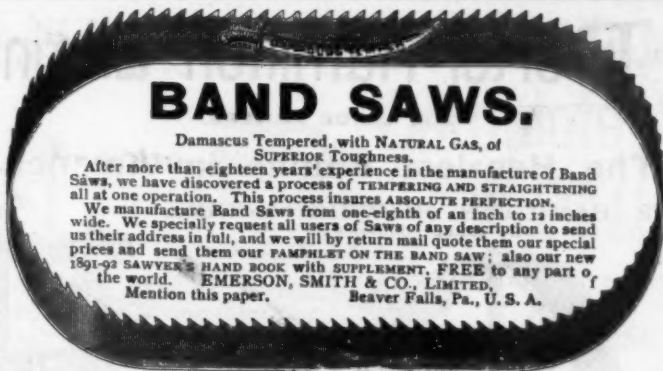
Gang Edgers, Gang Rip-Saws,  
 Gang Bolters, Log Turners,  
 Live Rolls, Trimmers,  
 Etc., Etc.

**ENGINES AND BOILERS.**

SEND FOR CIRCULARS AND PRICES.



CIRCULAR, GANG



## BAND SAWS.

Damascus Tempered, with NATURAL GAS, of SUPERIOR Toughness.  
After more than eighteen years' experience in the manufacture of Band Saws, we have discovered a process of TEMPERING and STRAIGHTENING all at one operation. This process insures ABSOLUTE PERFECTION. We manufacture Band Saws from one-eighth of an inch to 12 inches wide. We specially request all users of Saws of any description to send us their address in full, and we will by return mail quote them our special prices and send them our PAMPHLET ON THE BAND SAW; also our new 1891-92 SAWYER'S HAND BOOK with SUPPLEMENT. FREE to any part of the world. EMERSON, SMITH & CO., LIMITED, Beaver Falls, Pa., U. S. A. Mention this paper.

TRADE MARK.

## DAMASCUS TEMPER.

CIRCULAR SOLID SAWS, STANDARD INSERTED or CHISEL-PLANER TOOTHED SAWS, CLIPPER and LUMBERMAN'S CLIPPER SAWS are specialties with us. Our HAND-BOOK for SAWYERS and SUPPLEMENT gives full information, and we will esteem it a favor to be permitted to send them to any reader of this paper.

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PRE-EMINENT IN QUALITY.

# SAWS

THE "BARRY" BAND

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Manufactured by W. B. BARRY SAW & SUPPLY CO. Nos. 124 to 128 S. Penn Street, INDIANAPOLIS, IND.

A TRIAL SOLICITED.

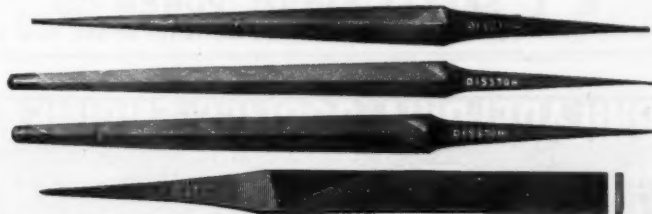
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Manufacturers of SAWS and FILES of Every Kind and Description.



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IMPORTERS  
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MANUFACTURERS OF **Hardwood Lumber and VENEERS** DOMESTIC AND FOREIGN OF EVERY DESCRIPTION.

FULL LINE OF SEASONED STOCK. —MILLS, CINCINNATI, OHIO.

Eastern Branch, 6th and Lewis Sts., E. R., NEW YORK.



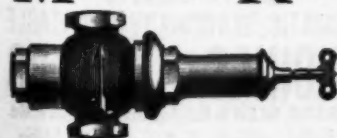
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MAIN OFFICE AND WORKS: PALMYRA, NEW YORK.  
OTHER OFFICE: New York, 136 Liberty Street.  
Chicago, 25 S. Canal Street.

Our Improved Packings for Steam, Water and Ammonia OUTLAST ALL OTHERS, because the life and elasticity of the rubber have not been impaired by the chemical action of boiling oil.

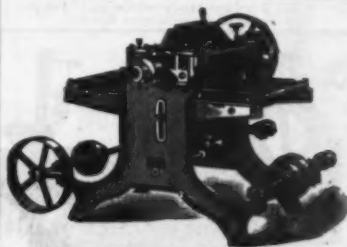
We Hold the Patent On These Packings.  
Beware of Infringements and Cheap Imitations.

## Mason Reducing Valves



OUR STEAM-REGULATING DEVICES are the Standard used by all the Sugar Refineries, Car-Heating Companies, Factories and Electric Stations. If you would economize fuel, write the  
**MASON REGULATOR CO.,**  
BOSTON, MASS.

## Woodworking Machinery. C. B. Rogers & Co., Norwich, Conn. Planers and Molders.

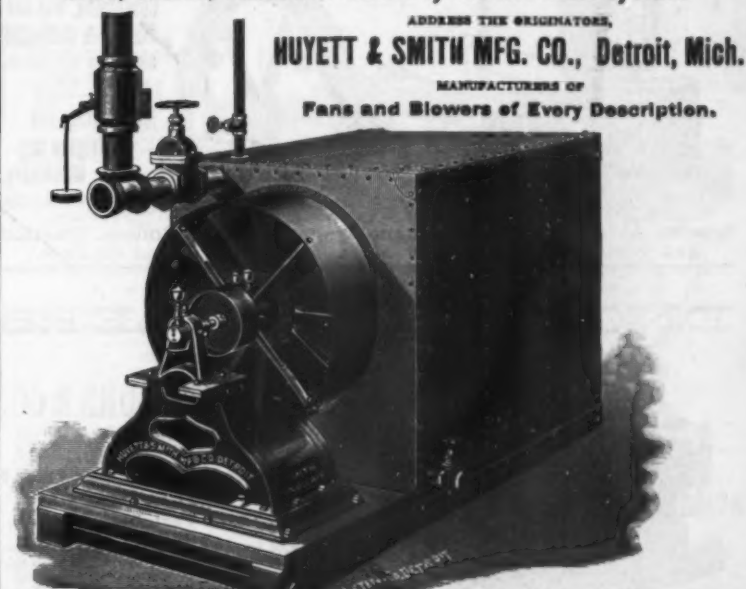


No. 10 Planer.

THOS. K. CAREY & BRO.  
Agents,  
Baltimore, Md.

**JACOB J. MOLTZ,** WILLIAMSPORT, PA.  
MANUFACTURER OF  
**LATH AND PICKET MILLS,**  
GANG EDGERS, ENDLESS CHAIN, LOG JACKERS, LOG TURNERS, PULLEYS AND SHAFING.  
Capacity of Lath Mill, 60,000 to 90,000 per day of Pine; 40,000 to 60,000 of Hemlock.  
Send for Price List and Circular.

Now is the time to arrange for Heating and Ventilating your Factory, Store, Church, Theatre or School by the Hot Blast System.



RELIABLE SIMPLE DURABLE

## PENBERTHY AUTOMATIC INJECTOR

GUARANTEED EFFICIENCY 99% PERCENT  
30 DAYS TRIAL - SEND FOR PAMPHLET

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NO. 11 MURRAY ST.  
PENBERTHY INJECTOR CO. DETROIT MICH.

STEAM

## NATIONAL TUBE WORKS CO.

160 Broadway, New York.

MANUFACTURERS OF THE

## DODGE Automatic Injector.

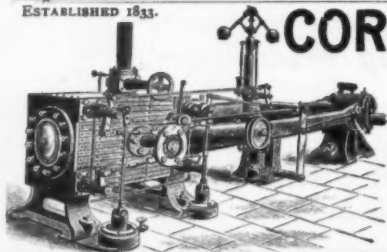
The Simplest and Most Perfect Boiler Feeder Made.

HAS PRACTICALLY BUT ONE INTERIOR PART. Nothing to cut or wear out. IT IS SIMPLICITY AND PERFECTION.

No skill required to operate it. Write for particulars.

SMITH-COURTNEY CO., Richmond, Va., sales agents for Virginia, North and South Carolina and Georgia; C. F. HAMLEN, St. Augustine, Fla., sales agent for Florida.

ESTABLISHED 1833.



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HIGH PRESSURE.

Compound and Condensing 25 to 3,000 H. P.

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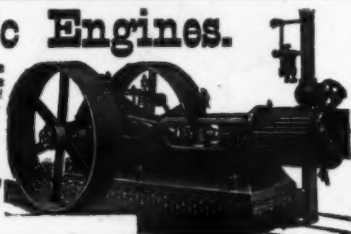
COMPLETE STEAM PLANTS A SPECIALTY.

C. & G. COOPER & CO., Mt. Vernon, Ohio.  
W. R. BURGESS MACHINERY CO., Greensboro, N. C., Southern Agents.

## Valley Automatic Engines.

Applicable to any and all uses requiring Close Regulation and Economical use of Steam. They are constructed throughout of selected material and finished in the best possible manner. Guaranteed to equal any of their class extant in Economy, Regulation, Durability and General Efficiency.

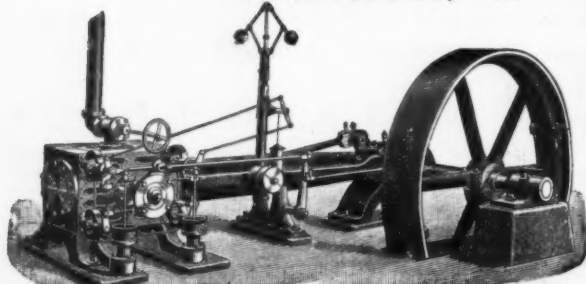
### VALLEY IRON WORKS,

MANUFACTURERS,  
WILLIAMSPORT, PENNA.

ECLIPSE CORLISS ENGINES.

## Frick Company, Engineers, Builders,

WAYNESBORO, PA.

40 to 1,000 H. P.  
Made.

Condensing, Non-Condensing &amp; Compound.

Send for Corliss Circular.

Ice-Making and Refrigerating Machinery.

Send for Ice-Machine Circular.

Special Automatic Electric Light Engines, Steam Boilers, Traction and Portable Engines. Saw Mills. Send for our General Catalogue.

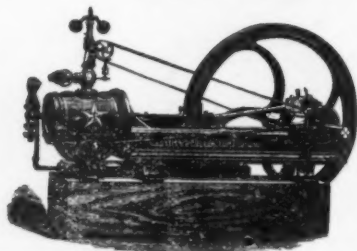
## FOR THE LOWEST-PRICED FIRST-CLASS ENGINES & BOILERS

ADDRESS

GEO. W. TIFFT, SONS & CO.  
BUFFALO, N. Y.

5 to 500 H. P. Special Stock Sizes 5 to 50 H. P., both Stationary and Semi-Portable.

A few good Second-Hand Engines and Boilers are for sale at an astonishingly low figure. Must be sold to make room for stock. Correspondence solicited. Mention this paper.

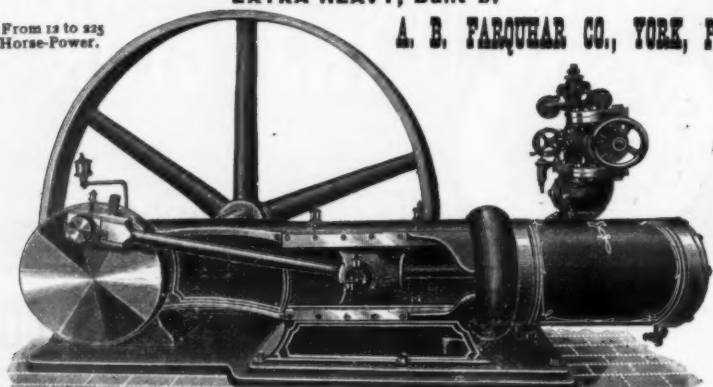


## CORLISS STYLE GIRDER FRAME ENGINES,

EXTRA HEAVY, Built by

A. B. FARQUHAR CO., YORK, PA

From 12 to 225 Horse-Power.



## Portable Engines, Boilers and Saw Mills.

## The ALEX. K. RARIG CO.

BUENA VISTA, VA.

MANUFACTURERS OF

Blast Furnace Plants,

AUTOMATIC CUT-OFF ENGINES,

HOISTING ENGINES,

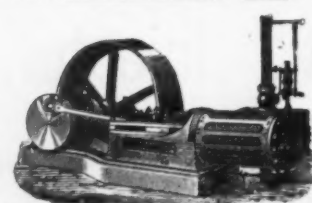
Boilers, Boiler Plate Furnaces,

ROLLS AND SHEARS,

Clay-Working Machinery,

Steam Sewer Pipe Presses.

Socket Pipe, Tile and Fire-Proof Dies, Wet and Dry Pans for Grinding and Tempering Clay for Sewer Pipe, Terra Cotta, Brick and Tile. We furnish complete outfits for Sewer Pipe and Brick Plants. Write for catalogue. Correspondence solicited. Mention this paper.



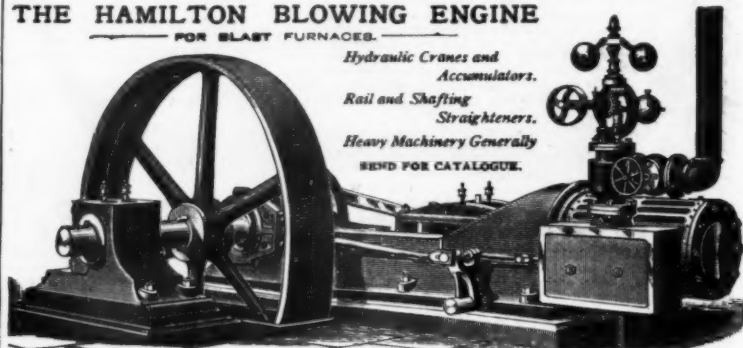
## The Porter-Hamilton Engine.

FOR LARGE POWERS.

### The Heaviest Engine in America.

## THE HAMILTON BLOWING ENGINE

FOR BLAST FURNACES.

Hydraulic Cranes and Accumulators.  
Rail and Shafting Straighteners.  
Heavy Machinery Generally  
SEND FOR CATALOGUE.

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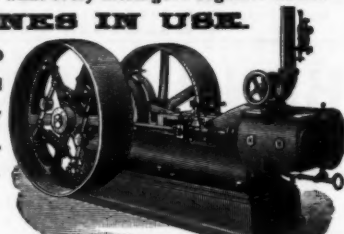
## STEAM ENGINES AND BOILERS

If you want the very best engine there is made, go direct to the builders, 30 Cortlandt street, New York, and get a NEW YORK SAFETY STEAM POWER CO. VERTICAL ENGINE for 2 to 20 horse power, or a HORIZONTAL AUTOMATIC ENGINE for 20 to 250 horse power. These Engines have the fewest possible wearing parts, all of which are in sight and easily accessible, which is what every intelligent engineer wants.

### 6,000 ENGINES IN USE.

ENGINES AND BOILERS Erected and Connected ready to run, also Shafting, Pulleys, Belting, Etc.

Send for price list.



## N. Y. SAFETY STEAM POWER CO.

Also, 64 South Canal St., Chicago.

30 Cortlandt Street, New York.

## PHILADELPHIA CORLISS ENGINES.

Catalogues Mailed on Application.

Non-Condensing.  
Condensing.  
Triple and Quadruple Expansion.  
Horizontal or Vertical.

Superior Design, Workmanship and Finish.

Best Material. HIGHEST EFFICIENCY GUARANTEED.

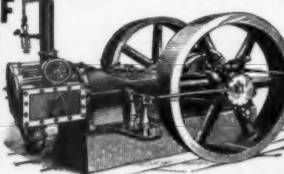
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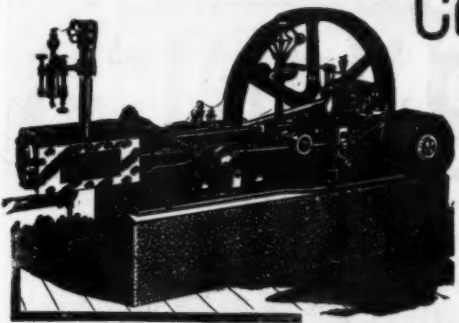
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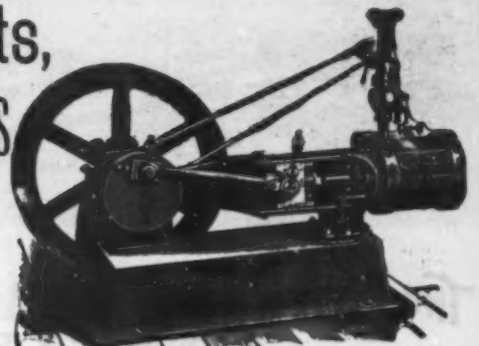
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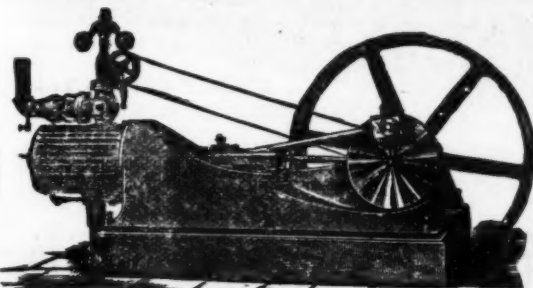
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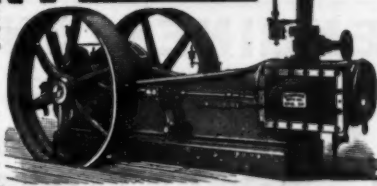
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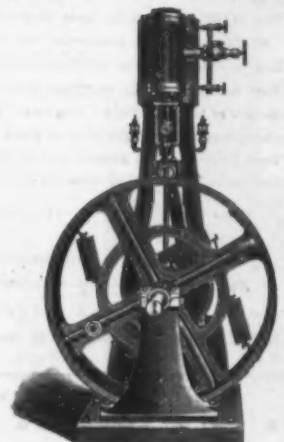
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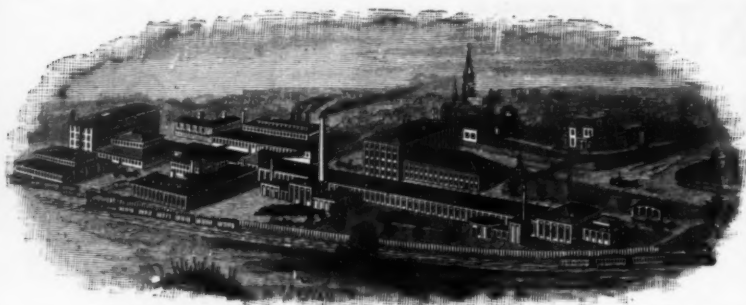


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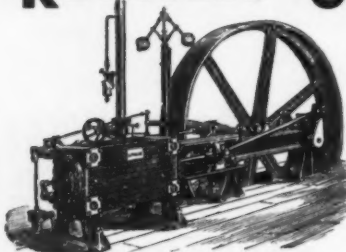
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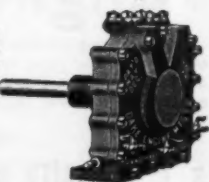
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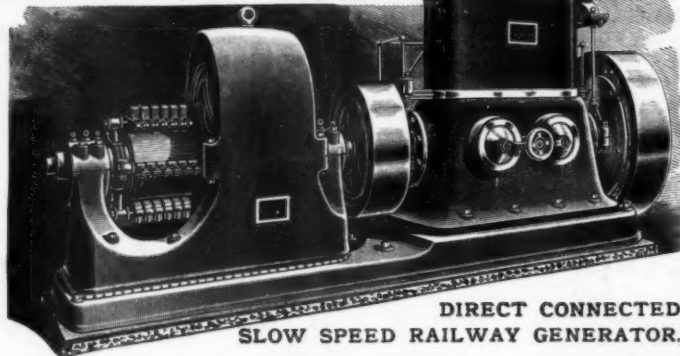


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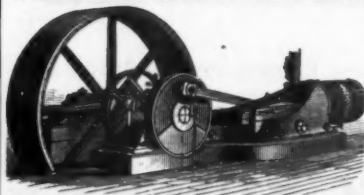
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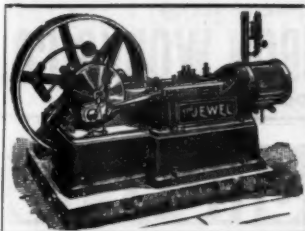


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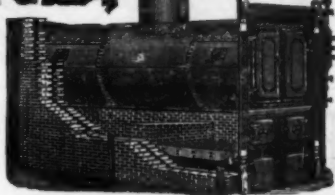
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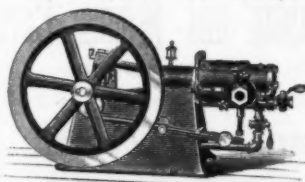
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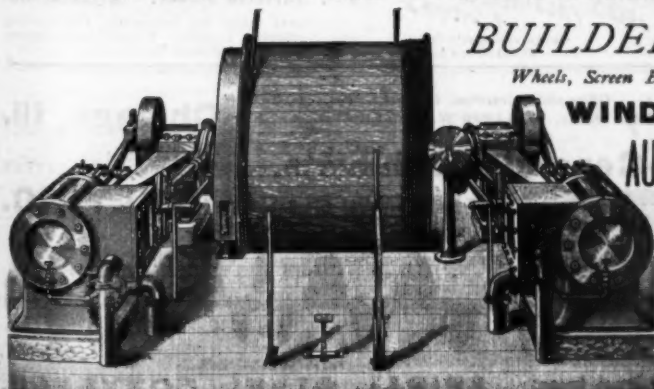
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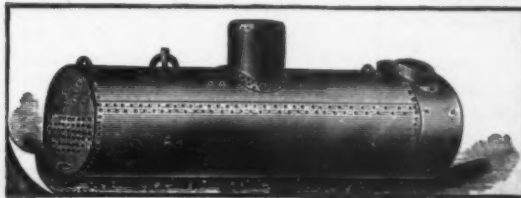
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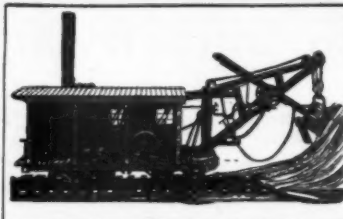
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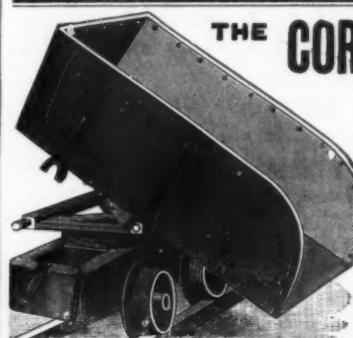
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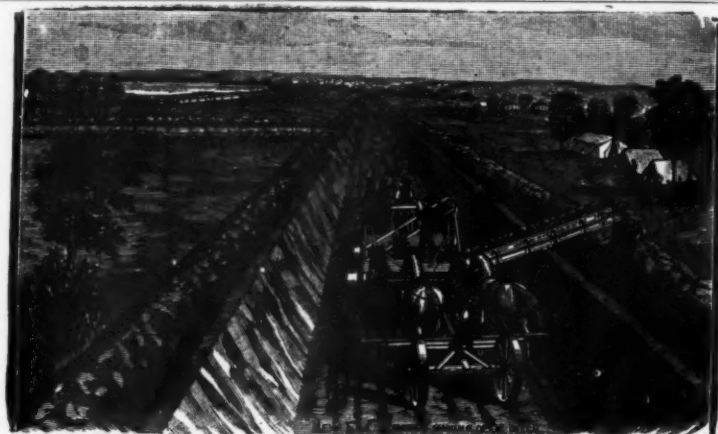
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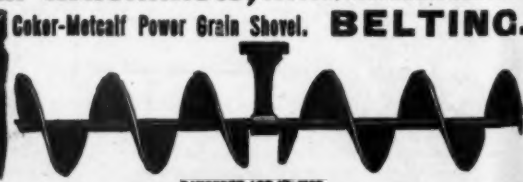
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Ashland, Ky.—Electrical Railroad.—The Ashland & Catlettsburg Street Railroad Co., W. L. Ringo, president, will take steps at once to extend its road to Catlettsburg and change from animal to electric power.

Austin, Texas.—Street Railway.—William Metzger and Thorne Snell, of Clinton, Ill.; Richard Snell, of Kansas City, Mo., and others, lately reported as leasing the city's railroad to the dam, have chartered the Austin Dam Street Railway Co. The capital stock is \$100,000.

Baltimore, Md.—Cable and Electrical Railroad.—William H. Parmenter, of New York city, and S. L. Dows, of Cedar Rapids, Ia., are said to contemplate the purchase of the Highlandtown & Point Breeze Street Railway for a New York syndicate. If the sale is made the road would probably be operated by cable through the city and electricity in the suburbs.

Baltimore, Md.—Electrical Railroad.—Rutherford & Seddon have been awarded contract to build the electrical railroad of the South Baltimore & Curtis Bay Railroad Co., mentioned in last issue. The line will be 3½ miles long and cost \$100,000.

Blountsville, Ala.—Railroad.—It is probable that the proposed dummy line from Blountsville to Bangor, previously mentioned, will be built at an early date.

Christiansburg, Va.—Belt Railroad.—An engineering corps of the Norfolk & Western Railroad Co. (office, Roanoke) is surveying the projected Christiansburg Belt Railroad.

Clarksville, Tenn.—Street Railway.—The Bluff Association will, it is understood, build a street railway to a park to be laid off near Clarksville. W. M. Daniel can give information.

Columbus City, Ala. (no postoffice).—Street Railway.—A street railway is reported as to be built. The Southern Industries Co., of 1 Beacon street, Boston, Mass., can be addressed.

Columbus, Miss.—Street Railway.—The city has granted a franchise to a local company to build a street railway. The mayor can give particulars.

Corinth, W. Va.—Railroad.—A party of Pennsylvania capitalists, represented by Wotring & Elliott, who have purchased the Kunkel lands in Preston county, propose building a narrow-gauge railroad from Oakland to Corinth or some other point.

Decatur, Ala.—Railroad.—R. E. Palmer and J. G. Makin, of New York city; G. Noble Fell, of London, Eng., and Russell Howland, of Oxford, Eng., are said to be the promoters of a project to build a railroad from a point on the Tennessee river, either Decatur or Guntersville, via La Grange to the Atlantic coast somewhere in Georgia or South Carolina.

Easley, S. C.—Railroad.—J. H. Burckhalter, of Augusta, Ga., will soon place an engineering corps on the route of the railroad he contemplates building from Easley to Pickens, previously mentioned.

Elkhorn, W. Va.—Railroad, Tunnel, Bridges, etc.—Thompson Bros., of Knoxville, Tenn., whose present address is Ashland, Ky., have contract for 30 miles of the Ohio extension of the Norfolk & Western Railroad (office, Roanoke, Va.), as lately stated, report that their contract begins with section 71 and runs to section 100, inclusive. The work embraces the completion of the Hatfield tunnel, two bridges across the Tug fork of the Big Sandy river and considerable heavy rock work, aggregating in all about \$250,000. They will place forces at once and push to completion. E. S. Moorman & Co., of Lynchburg, Va., contractors for 30 miles of this extension, received orders, as lately reported, to resume work, and state that it will take about three months of good weather to complete their contract with a force of 300 men. They have shipped outfit and expect to soon commence operations.

Fordsville, Ky.—Railroad.—The Fordsville, Hartford & Southwestern Railroad Co., referred to in last issue, is organized to build a railroad from Fordsville via Hartford to Madisonville.

Fort Valley, Ga.—Railroad.—George W. Marvin, of Cordele, has, it is stated, secured for parties abroad an option on the charter of the Southeastern Railroad Co., which authorizes the building of a railroad from Fort Valley to Brunswick.

Frozen Creek, Ky.—Railroad.—The Atwater Land Co. is interested in a project to build a narrow-gauge railroad from Frozen Creek to Jackson.

Galveston, Texas.—Electrical Railroad.—The South Galveston & Gulf Shore Railroad Co., previously reported as to build an electrical railroad from Galveston down the island to South Galveston, a distance of about 13 miles, has been granted right of way on certain streets by the city council. The company expects to commence work at once and build the line as speedily as possible.

Irvine, Ky.—Railroad.—Work has been resumed between Irvine and Beattyville on the Richmond, Nicholasville, Irvine & Beattyville Railroad (office, Louisville), lately referred to.

Jackson, Tenn.—Railroad.—A northeastern connection at Huntingdon with the Nashville, Chattanooga & St. Louis Railroad is being discussed. The secretary of the Board of Trade can give information when anything definite is reached.

Knoxville, Tenn.—Railroad Bridge, etc.—The receiver of the Marietta & North Georgia Railway Co. (office, Marietta, Ga.) will probably be granted permission to issue receiver's certificates to the amount of \$1,600,000 for the purpose of building a bridge over the Tennessee river at Knoxville and other bridges; also for ballasting the line, steel rails, grading and other work.

Laney, Ala.—Railroad.—Arrangements are expected to be completed in the near future for the extension of the Ochatie Valley Railroad to Piedmont, a distance of 13 miles, lately mentioned J. C. Laney, president, can give information.

Mobile, Ala.—Railroad.—T. W. Nicol writes that it is confidently expected that surveys will be made on the Mobile & Dauphin Island Railroad at an early date. The project is in the hands of English capitalists.

Mobile, Ala.—Railroad.—P. Keating, of Pittsburgh, Pa., has, it is stated, secured contract to build the Gulf & Chicago Railroad from Cedar Point, in Mobile county, to Tuscaloosa, a distance of 229 miles. He will, it is said, commence work at once at Whistler, Ala.

Montgomery, Ala.—Dummy Line.—The Montgomery county board of revenue has granted a franchise to S. D. Seelye and associates to build and operate the dummy line previously reported.

Oak Ridge, N. C.—Railroad.—A railroad will probably be built to connect Oak Ridge with the Cape Fear & Yadkin Valley or the Richmond & Danville Railroads.

Oxford, N. C.—Railroad.—W. F. Beasley, president of the Oxford & Coast Line Railroad, lately referred to, expects that right of way will be secured by December 1, and construction will then commence.

Portsmouth, Va.—Electrical Railroad.—M. W. Mason, of Norfolk, referred to in last issue, writes that a number of persons are ready to construct a street railway from Portsmouth to Port Norfolk as soon as charter can be obtained from the legislature and franchise from the city.

Pulaski City, Va.—Railroad.—The Norfolk & Western Railroad Co. (office, Roanoke) is said to contemplate the early building of its Cripple Creek Road to the iron ore property of the Pulaski Development Co. at Speedwell.

South Watauga, Tenn.—Railroad.—The Watauga Valley Railroad, previously mentioned, will, it is stated, be completed from South Watauga to Elizabethton.

Sutherland, Fla.—Electrical Railroad.—Imhoff & Elliott, of Lincoln, Neb., may build an electrical railroad.

Victoria, Texas.—Railroad.—The stockholders of the Pan-American Railway Co., lately reported as to build a railroad from Victoria to Brownsville, a distance of 245 miles, will meet December 8 to consider the issuance of bonds not to exceed \$200,000 per mile of road.

Washington, D. C.—Railroad Bridge.—The Washington & Arlington Railway Co. will shortly commence building a bridge over the Potomac river for its electrical railroad previously mentioned.

### Newport News Notes.

The promoters of the electric road to be built between Newport News and Hampton had a meeting here this evening to settle details for the building of the road at once. Rooms and board have already been obtained in Newport News for the "bosses" who will have charge of the work. Hampton people are building considerably now with the idea of furnishing homes to people who cannot get houses here. They think the electric road will be such a convenience that people working here will rent houses there rather than board in Newport News. Newport News people don't propose to let any one leave here because they cannot get a house to live in, and are forming two more building companies in addition to those already in operation to build houses for the multitude.

Plans of the new Chesapeake & Ohio depot have been received here for approval by the Old Dominion Land Co.—Norfolk Virginian.

The line of this electric road passes directly through the splendid property of the Newport News Co., which owns about 280 acres of fine dwelling property.

## A New Yorker's Views on Cotton Manufacturing in Mississippi.

The MANUFACTURERS' RECORD has repeatedly pointed out the great advantages possessed by Mississippi and the adjoining States for cotton manufactures. It is probable that cotton can be raised at a lower cost in the Yazoo Delta region of Mississippi than anywhere else in the South, and instead of its being shipped to England and to New England, a systematic effort should be made by the people of that State to develop its cotton-manufacturing interests. Hon. W. E. D. Stokes, a prominent business man of New York and a man of large wealth, who, we believe, will be interested in the large cotton mill to be built at Carrollton, Miss., by Mr. A. F. Randle and his associates, particulars of which were given in the MANUFACTURERS' RECORD some months ago, has recently been visiting Mississippi and Louisiana, and in an interview published in the New Orleans Times-Democrat a few days ago, said:

"This country is looking to the South to see the greatest appreciation in value in the immediate future, and especially is this true of Mississippi and Louisiana, and no men are more keenly alive to this than our bankers, and that is one thing that brings them to your city. The developments which your railroads and manufacturing interests have started are now beginning to show fruits. Your lands, which for centuries have remained uncultivated, are now being cleared for the raising of cotton, sugar, corn and garden truck.

"I have just been travelling through the Mississippi delta, the richest soil on the surface of the earth. I have seen what your levees have done. Plantations which were long neglected are now being cultivated. It seems almost a waste to see those grand old oaks cut down and made into railroad ties, so that the land may be cleared and sowed.

"I believe that the future Manchester of America will be located in Mississippi or Louisiana, and why should it not be? You have all the natural advantages right at your door. You have the cotton, the coal, a good temperature the year around and plenty of intelligent white labor. If the mills in Bangor, Me., or anywhere in New England can pay 10 or 15 per cent. on their capital, mills well located here should pay under as good management 40 or 50 per cent.

"Your cotton here is at your door; in New England the freight on it is \$5.00 a bale in addition to the cost of baling, which would not be required in mills located in or near the Delta. Coal can be delivered in this region at \$1.75 a ton; in New England it would cost about \$4.00, and then about half the coal is used for heating. The water here is at a good temperature, while in New England it is at the freezing point for at least three months in the year, while at places like Carrollton, Miss., it is at an equable temperature all the year round, and in abundant supply. I visited the Richardson mills at Wesson, and there I found that they had for an original capital investment of \$345,000 mill property worth \$3,000,000 to-day, that they pay 45 per cent. dividends, and have a very large surplus besides.

"There are 2,000 employees, all white, who live in and about the town in little houses of their own. Not a single colored person is employed about the mills. They are the healthiest and happiest lot of operatives that I have ever seen, and they go singing to their work. Their hours are from 6 A. M. to 6 P. M., with a hour's intermission at noon. When I saw this I asked myself what chance a New England mill would have in competition with an institution having such advantages. You have here no trades unions trying to encourage

idleness and no legislative meddling with matters that should be settled between employer and employee, whereas at the North the Knights of Labor will not allow an operative to work more than seven or eight hours a day, and will not allow one operative to do more than his neighbor."

## Big Phosphate Mining Operations.

The Weekly Floridian, of Tallahassee, Fla., in its last issue gives some particulars about the mining operations of the La Pierre Phosphate Co., from which we take the following extracts:

"Three engine-houses, each covering an immense boiler, a hoisting machine and a yawning shaft sunk down 60 feet into the bowels of the earth, now crown one of the lofty hills on the property of the La Pierre Phosphate Co., a short distance west of Tallahassee, and mining operations will be begun in earnest next week.

"The company is capitalized at \$1,500,000. It owns a strip of fertile land, rich in phosphates, which is three-quarters of a mile wide and a mile and three-quarters long, containing 1,669 acres.

"The machinery has a capacity for taking out 900 tons of phosphates each working day of 10 hours.

"The president of the company is Mr. B. C. Mudge, of Boston, and the treasurer, Mr. F. E. Owen.

"As to the quality of the La Pierre rock, Messrs. Stillwell & Gladding, chemists to the New York Produce Exchange, say: 'We have no hesitation in pronouncing this phosphate a high-grade article of the highest commercial and manufacturing excellence.'

"Now as to quality, Prof. Lawrence C. Johnson, of the United States Geological Survey, who is a recognized expert, personally examined the La Pierre property, and his estimate is that they have between 60,000,000 and 100,000,000 tons of all grades.

"At about eight feet from the surface the first stratum of phosphate is found. This is a low grade purple rock averaging about 55 per cent of bone phosphate of lime without washing or separation. By eliminating the sand from this purple rock a high grade 72 per cent. rock is obtained, but this the company will not work at present, for they have so much of the higher grade that they will leave this to fall back on in the centuries to come. This stratum is 17 feet thick. Beneath it is a stratum of white sand seven feet thick, then comes a thick layer of high grade fire-clay.

"Beneath the fire-clay is found the second stratum of phosphates, a soft, friable high grade showing 73 per cent. of bone phosphate of lime. This deposit is four feet thick.

"Immediately below the soft phosphate deposit is a stratum of wonderful natural granulated bone, ground and prepared by nature ready for applying to the soil. This granulated bone has been tested by Florida planters, and they pronounce it in its crude state to be the very best fertilizer they ever used. One of the shafts will be used exclusively for taking out this granulated bone to put upon the local market at a low price per ton.

"The fourth stratum is of fine hard rock 12½ feet thick, which analyzes 75 per cent. of bone phosphate of lime, crude.

"One of the shafts will be used for taking out hard rock, another for soft rock and the third for the granulated bone.

"Taking the English basis of 22 cents per unit per ton the 70 per cent. grade would be worth \$15.40 per ton. Now, supposing the cost of mining, transportation, etc., to be 50 per cent. of this, which would be liberal, the net per ton would be \$7.70; but, suppose we say the net is only \$7.50 per ton, and, notwithstanding the capacity for taking out 900 tons a day, put it at 300 tons, and the daily income of the company will be \$2,250."



## Southern Financial News.

## NEW BANKS.

Birmingham, Ala.—The People's Savings Bank & Trust Co. and the Central Savings Bank have consolidated under the former's title. The capital stock is \$100,000.

Charleston, W. Va.—The national bank mentioned in last issue will be established by George S. Couch and others. It will be known as the Kanawha National Bank and be ready for business January 1, 1892. The capital stock is to be \$100,000.

Columbus City, Ala. (no postoffice).—W. E. Baskette, of Chattanooga, Tenn., is said to have promised to establish a national bank with a capital stock of \$100,000 in Columbus City. A banking and warehouse company is reported as to soon commence business. The Southern Industries Co., of 1 Beacon street, Boston, Mass., can be addressed.

Donaldsonville, La.—The Bank of Donaldsonville has been organized by B. Lemann, A. Netter, G. M. Bowie and others. It is a State institution and has a capital stock of \$25,000.

Eutaw, Ala.—B. B. Barnes writes that the promoters of the new bank reported in last issue as being organized have given up the idea of organizing.

Huntsville, Ala.—The Huntsville National Bank, to be organized by N. S. Wells, of Pierre, S. D., and his associates, will, it is stated, have a capital stock of \$250,000.

Memphis, Texas.—A. Mr. Powers, of Missouri, is said to be interested in a project to organize a national bank.

Memphis, Texas.—W. P. Beckham, lately reported as to establish a private bank, has commenced business.

Moundsville, W. Va.—The bank lately mentioned has been organized with M. F. Cox as president.

Norfolk, Va.—A. E. Krise and F. H. Porter, of Frostburg, Md., intend organizing a national bank in Norfolk, as lately stated, but nothing definite has been done. The capital stock is to be \$200,000.

Pulaski, Tenn.—The Citizens' National Bank has been organized with John S. Wilkes, president; J. B. Stacy, vice president, and W. L. Abernathy, cashier. This bank will, it is understood, succeed the Giles National Bank, the charter of which expires on January 1. The capital stock is \$50,000.

Velasco, Texas.—The First National Bank, lately mentioned, has been organized with J. M. Moore, president; J. H. Shappard, vice-president, and R. L. Ervin, cashier. The capital stock is \$75,000.

White Hall, Md.—A. E. Hatch, of Baltimore, is promoter of the project, mentioned in last issue, to establish a national bank with a capital stock of \$50,000.

Austin, Texas.—The New England Loan & Trust Co. has been granted permission to do business in Texas. It has an authorized capital stock of \$5,000,000.

Baltimore, Md.—The city finance commissioners have disposed of at par \$1,000,000 of the \$5,000,000 loan previously mentioned. \$500,000 of the issue was purchased by the Mercantile Trust Co., and the other \$500,000 by the Savings Bank of Baltimore.

Baltimore, Md.—The directors of the Baltimore & Ohio Railroad Co. have declared a dividend of 20 per cent., payable in the common stock of the company, and adopted a resolution authorizing the issuance of \$5,000,000 additional of the common stock of the company.

Baltimore, Md.—The Old Town Fire Insurance Co. has declared a semi-annual dividend of 2½ per cent.; Consolidated Gas Co., a dividend of 1½ per cent.; and the Second National Bank, a semi-annual dividend of 4 per cent.

Basic City, Va.—The Basic City Mining, Manufacturing & Land Co. contemplates, it is stated, the issuance of \$150,000 of 6 per cent. 10-year first mortgage bonds.

Carrollton, Ky.—The Merchants & Planters' Bank has declared a dividend of 8 per cent.

Charlotte, N. C.—The town has voted to issue \$40,000 of bonds to complete the City Hall. The mayor can give particulars.

Charlottesville, Va.—The proceeds of the \$20,000 of bonds reported in last issue as to be issued are to pay the floating debt of the city, amounting to about \$8,000, and the balance for street and other improvements.

Dallas, Texas.—The Texas State Fair & Dallas Exposition Association intends issuing \$75,000 of second mortgage bonds. J. P. Murphy can give particulars.

Fayetteville, N. C.—W. G. Le Duc, receiver, will, it is stated, about December 1 declare another dividend of 20 per cent. to the depositors of the defunct People's National Bank.

Greensboro, N. C.—The board of aldermen has adopted an ordinance providing for the issuance

of \$30,000 of bonds for the Girls' Normal School. The mayor can be addressed.

Jacksonville, Fla.—The Jacksonville Savings & Investment Association has been chartered by W. B. Clarkson, F. O. Nichols and Robert Braden. The capital stock is \$20,000.

Knoxville, Tenn.—The East Tennessee, Virginia & Georgia Railroad Co. has declared an annual dividend of 2 per cent. on the preferred stock.

Maysville, Ky.—The First National Bank has declared a semi-annual dividend of 1 of 4 per cent.

Richmond, Va.—The floating debt of the Central Railroad & Banking Co., Richmond & Danville Railroad Co. and the East Tennessee, Virginia & Georgia Railroad has, it is announced, been provided for. Speyer & Co., of New York city, furnish the first-named company \$3,700,000 for one year from November 1, 1891, at 6 per cent., with a commission of 2½ per cent. This loan is secured by the pledging of \$7,400,000 5 per cent. consolidated bonds. The Mutual Life Insurance Co., of New York city, advances the Central \$700,000 at 6 per cent., and takes Savannah & Western bonds as collateral. John H. Inman and others are carrying the Richmond & Danville debt of \$3,650,000, and the East Tennessee debt of \$1,400,000 is taken care of by Samuel Thomas.

Rome, Ga.—Floyd county will hold an election to consider the issuance of about \$35,000 or \$40,000 30 year 4 per cent. bonds for county purposes. J. C. Foster, chairman board of county commissioners, can give information.

Staunton, Va.—The directors of the Staunton Development Co. decided at a recent meeting to issue bonds, the proceeds of which to be used for canceling the company's indebtedness.

Towson, Md.—The Towson National Bank has declared a semi-annual dividend of 3 per cent.

Tyler, Texas.—The banking house of Bonner & Bonner is reported as suspending. The assets are said to more than cover liabilities.

Victoria, Texas.—The Pan-American Railway Co. meets December 8 to consider the issuance of bonds at the rate of \$20,000 per mile of road.

Vinton, Va.—The company reported in last issue as declaring a dividend of 25 per cent. is the Vinton Land, Loan & Building Co. This is the second dividend of 25 per cent. declared this year by that company, and it expects to pay 25 per cent. more within six months.

## Good Times Ahead for Middlesborough.

The reorganization of matters connected with the English investments at Middlesborough, Ky., has been accomplished and the Middlesborough Town Lands Co. has succeeded the Middlesborough Town Co. Mr. Edward F. Powers, an American who has resided in London for some years, and who recently made a thorough investigation into the resources and advantages of Middlesborough and into the operations of all the companies there on behalf of the English stockholders, has become president and managing director of the new company. Mr. Powers is now in Middlesborough, and he will devote his time and energy to the development of that place. It is understood that the \$1,250,000 which the English stockholders decided to be necessary in carrying out the enterprises already undertaken has been raised and that active work will be resumed on these industries. With these enterprises, which include the South Boston Iron Works, pushed to completion, and the two furnaces and great steel plant, now practically finished, put into operation, there would be a solid basis for a very prosperous and progressive town, which would then naturally grow very rapidly in the future. Middlesborough will, when these things are done, have passed through all the trials that come to every new town, and like Roanoke, Birmingham, Chattanooga and similar places, its future will be marked by solid,

substantial growth which will bring large returns to its English investors.

At the meeting of the stockholders last Thursday a unanimous vote of thanks to the retiring officers, A. A. Arthur, John B. Carey and John M. Brooks, was passed. The new company elected Mr. John M. Brooks as manager, and thus Mr. Powers will have the active assistance of Mr. Brooks, who has been so closely identified with the growth of Middlesborough.

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Baltimore Stock Exchange  
Quotations.

Reported by ALEXANDER BROWN & SONS, Bank-  
ers, Baltimore.

BALTIMORE, November 18, 1891.

	ASKED.
Virginia's, new.....	65%
Baltimore & Ohio.....	103%
Wil. Col. & Aug.....	107
Ga. Car. & N. 5's.....	101
Va. & Tenn 2d 5's.....	100
Atlanta & Char. 1st 7's.....	118
Atlanta & Char. Income 6's.....	100%
Col. & Green. 1st 6's.....	99
Col. & Green. 2d 6's.....	73
Va. Midland, 5th 5's.....	101%
West Va. Central 1st 6's.....	107
Ga. Pacific 1st 6's.....	101%
Ga. Pacific 2d.....	6
West. Nor. Car. Cons'd 6's, gtd.....	93
Cape Fear & Y. Valley 6's, A.....	100%
Cape Fear & Y. Valley 6's, B.....	100%
Cape Fear & Y. Valley 6's, C.....	100%

## Foreign Exchange Quotations.

ALEXANDER BROWN & SONS.

BALTIMORE, November 18, 1891.

Bank of England rate — per cent.

Sterling.—Strong.	Commercial.
Selling.	479½@480½
60 days.....	The latter for banks.
3 days.....	484
France.	Commercial.
Selling.	525½@525
60 days.....	522½
3 days.....	520
Reichmarks.	Commercial.
Selling.	94½@—
60 days.....	94%
3 days.....	95%
Gulders.	Commercial.
Selling.	60 days..... 39 11-16
60 days.....	40
3 days.....	40%

SOUTHERN LOAN  
BOND INVESTMENTS.

[Under this head the MANUFACTURERS' RECORD will publish announcements, not exceeding ONE HUNDRED, four times free of charge. Only offerings of real estate loans and municipal, county and other bonds, accompanied by specific statement of amount, time, rate of interest and security, will receive free insertions in this column.]

WANTED—\$6,000 AT \$5. THREE TO five years, on a three-story 50x75 foot brick and stone business (stores, offices and Masonic hall) block, centrally located on best business street, rented to responsible parties; rentals amount to about \$2,600 a year. Cost \$12,000 to build, and is worth including the land, \$5,000. FALES BUILDING CO. Harrison, Tenn.

WANTED—\$100,000 ON THREE YEARS' time, to erect a Pebble Phosphate Plant on Peace river; capacity 200 tons daily; security, mineral beds and plant, first mortgage; interest 12 per cent.; half cash and remainder on erection of plant. Apply P. O. BOX 183, Fort Me de, Fla.

WANTED \$1,000 FOR ONE OR TWO years at \$5 interest, secured by first mortgage on improved property in Bluefield, W. Va. valued at \$2,500. Address J. L. HUTCHINSON, Box 86, Bluefield, W. Va.

WANTED—TO BORROW \$100,000 TO aid us in acquiring 70,000 acres of splendid pine timbered land, worth \$2.50 per acre for the timber alone, but also containing valuable phosphate deposits. Object to retail timber interest, retaining phosphate interest for development. Security, mortgage on the land. Half interest in profits to lender. Write before option expires, EOVIN & CO., 833 Broad St. Augusta, Ga.

WANTED—TO DISCOUNT FIRST MORTGAGE notes on improved Birmingham City real estate in sums of from \$1,000 to \$10,000; 6% net to party having money to invest. Abstracts furnished and property insured for benefit of holder of mortgage. If you have money to loan, address "J. L. L." Room 2 upstairs, over Jefferson County Savings Bank, Birmingham, Ala.

WANTED TO BORROW \$6.00 PER ACRE on 500 acres iron ore land in Upshur county, Texas, on ten years time at 7%, secured by first mortgage. Address P. I. M. & I. CO., Pittsburgh, Texas.

WANTED \$5,000 FOR FROM THREE TO five years by a young man to extend a paying business; terms to suit; secured by first mortgage on improved real estate and other security if desired, a so satisfactory local endorsement. Address "R. H. W." care Manufacturers' Record.

## "HIDDEN TREASURES."

The Pebble Phosphates of the  
Peace River Valley of  
South Florida.

A large 66-page pamphlet on the phosphates of Florida, by Dr. Jay Shrader, the greatest phosphate writer of the day.

It is the most complete, most accurate and most comprehensive treatise on phosphate ever issued, and will be hailed with delight by everyone interested in phosphate. Gives a full history of development from the first discovery up to date of publication, showing how fortunes have been made and lost.

It also contains a large map of the pebble district, showing location of every plant in operation or projected; also rivers, streams and lakes containing phosphate; railroads, seaports, &c.

Valuable to the miner, fertilizer manufacturer, chemist, and of great interest to the general reader.

Price 12 cents ea. h.

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VARN & VARN, Publishers.

BARTOW, FLA.

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Five-Acre Lot FREE, with all the CYPRESS Timber on Four Hundred Acres, and one year's exemption from county taxes, within half to three-quarters of a mile of the three railway depots at Lake City, Florida. This offer is made to any RELIABLE PARTY that will establish Factory for the manufacture of DOORS, SASH, BLINDS or line of FURNITURE. Apply to

SECRETARY BOARD OF TRADE,

LAKE CITY, FLA.



## PROPOSALS.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 14th day of December, 1891, for all the labor and materials required for the Approaches to the U. S. Custom-House, &c., Building at Galveston, Texas, in accordance with the drawing and specification, copies of which may be had at this office or the office of the Custodian at Galveston, Texas. Each bid must be accompanied by a certified check for a sum not less than 2% of the amount of the proposal. The Department will reject all bids received after the time herein stated for opening the same, also bids which do not comply strictly with all requirements of this invitation. Proposals must be enclosed in envelopes, sealed and marked "Proposal for Approaches to the U. S. Custom-House, &c., at Galveston, Texas," and addressed to W. J. EDBROOKE, Supervising Architect. November 13, 1891.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 14th day of December, 1891, for all the labor and materials required for the Alterations and Improvements to the U. S. Postoffice, Court-house, &c., building at Syracuse, N. Y., in accordance with the drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at Syracuse, N. Y. Each bid must be accompanied by a certified check for a sum not less than 2% of the amount of the proposal. The Department will reject all bids received after the time herein stated for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the Alterations and Improvements to the U. S. Postoffice, Court-house, &c., Building at Syracuse, N. Y.," and addressed to W. J. EDBROOKE, Supervising Architect. November 12, 1891.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 16th day of December, 1891, for all the labor and materials required to complete the Low-pressure, Return-circulation, Steam-heating and Ventilating Apparatus for the U. S. Courthouse and Postoffice Building at Texarkana, Ark.-Tex., in accordance with the drawings and specification, copies of which may be had at this office and the office of Superintendent at Texarkana, Ark.-Tex. Bids will be considered for any other system of heating and ventilating in lieu of the above and parties proposing to supply such, must submit with their proposal plans and full specification for same. Each bid must be accompanied by a certified check for a sum not less than 2% of the amount of the proposal. The Department will reject all bids received after the time herein stated for opening the same, also bids which do not comply strictly with all the requirements of this invitation, or for any heating and ventilating apparatus not satisfactory to this Department. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the Low-pressure, Return-circulation Steam-heating and Ventilating Apparatus (or otherwise, as the case may be) for the U. S. Courthouse and Postoffice Building at Texarkana, Ark.-Tex.," and addressed to W. J. EDBROOKE, Supervising Architect. November 16th, 1891.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 14th day of December, 1891, for all the labor and materials required for the Erection and Completion of the U. S. Postoffice Building (except heating apparatus) at Lansing, Mich., in accordance with drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at Lansing, Mich. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The Department will reject all bids received after the time herein stated for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the Erection and Completion (except heating apparatus) of the U. S. Postoffice Building at Lansing, Mich.," and addressed to W. J. EDBROOKE, Supervising Architect. Nov. 4, 1891.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 14th day of December, 1891, for all the labor and materials required for the Erection and Completion of the U. S. Postoffice Building (except heating apparatus) at Lansing, Mich., in accordance with drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at Lansing, Mich. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The Department will reject all bids received after the time herein stated for opening the same, also bids which do not comply strictly with all the requirements of this invitation. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the Erection and Completion (except heating apparatus) of the U. S. Postoffice Building at Lansing, Mich.," and addressed to W. J. EDBROOKE, Supervising Architect. November 10, 1891.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 14th day of December, 1891, for all the labor and materials required for the Erection and Completion of the U. S. Postoffice Building (except heating apparatus) at Lansing, Mich., in accordance with drawings and specification, copies of which may be had on application at this office or the office of the Superintendent at Lansing, Mich. Each bid must be accompanied by a certified check for a sum not less than 2 per cent. of the amount of the proposal. The Department will reject all bids received after the time herein stated for opening the same, also bids which do not comply strictly with all the requirements of this invitation, or for any heating and ventilating apparatus not satisfactory to this Department. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the Low-pressure, Return-circulation, Steam-heating and Ventilating Apparatus (or otherwise, as the case may be) for the U. S. Postoffice Building at Lansing, Mich.," and addressed to W. J. EDBROOKE, Supervising Architect. November 10, 1891.

**SEALED PROPOSALS** will be received at the office of the Supervising Architect, Treasury Department, Washington, D. C., until 2 o'clock P. M. on the 10th day of December, 1891, for all the labor and materials required to fix in place complete the Low-pressure, Return-circulation, Steam-heating and Ventilating Apparatus for the U. S. Postoffice Building at Lansing, Mich., in accordance with the drawings and specification, copies of which may be had at this office or the office of the Superintendent at Lansing, Mich. Bids will also be considered for any other system of heating and ventilating in lieu of the above, and parties proposing to supply such must submit with their proposal plans and full specification for same. Each bid must be accompanied by a certified check for a sum not less than 2% of the amount of the proposal. The Department will reject all bids received after the time herein stated for opening the same, also bids which do not comply strictly with all the requirements and meaning of this invitation, or for any heating and ventilating apparatus not satisfactory to this Department. Proposals must be enclosed in envelopes, sealed and marked "Proposal for the Low-pressure, Return-circulation, Steam-heating and Ventilating Apparatus (or otherwise, as the case may be) for the U. S. Postoffice Building at Lansing, Mich.," and addressed to W. J. EDBROOKE, Supervising Architect. November 10, 1891.

**MAYOR'S OFFICE.**  
VICKSBURG, MISS., October 15th, 1891.  
Sealed proposals for lighting the city of Vicksburg for a period of one, three and five years from January 1st, 1892, will be received at this office until Monday, December 7th, 1891. The bid of gas company to state the candle-power of each lamp, and bids to be made on 100, 125, 150 and 200 lamps for one, three and five years. The bids of electric light company to state the candle power of electric light, and bids to be made on 10, 20, 30, 40 and 60 electric lights for one, three or five years. R. V. BOOTH, Mayor.

**MAYOR'S OFFICE.**  
GREENSBORO, N. C., Oct. 22, 1891.  
The undersigned will receive sealed bids for LIGHTING THE CITY OF GREENSBORO, N. C., WITH ELECTRICITY from and after the 15th day of April, 1892. Bids to be made upon an estimate of not less than 50 arc lights of 1,500 candle-power each, or with incandescent lights of equal lighting capacity. Proposals are solicited, and it is desired that each shall contain an offer to light by the moon calendar, and also an offer to light all night. Bids will be opened on February 1st, 1892. All bids must be addressed to Jas. W. Forbis, Mayor of Greensboro, N. C. The city reserves the right to reject any and all bids. JAS. W. FORBIS, Mayor, City of Greensboro.

## WANTS.

**WANTED**—By a First-Class Machinist of 15 years experience in the largest saw mill in Pennsylvania A POSITION. Address ENGINEER, care Manufacturers' Record.

**WANTED**—A PROCESSOR must thoroughly understand the CANNING business in all its branches. Correspond with LAKE LAKE CANNING MFG & MILLING COMPANY, Lakeland, Fla.

**WANTED**—Party with \$10,000 to \$15,000 to invest in one of the best paying manufacturing enterprises in the country. Address for full particulars M. Room 14, 210 E. Lexington street, Baltimore, Md.

**WANTED TO BUY** a good second-hand STEAM ROAD ROLLER. Address ROLAND PARK COMPANY, Baltimore, Md.

**WANTED**—POSITION as SUPERINTENDENT OF MACHINERY by a thoroughly competent hydraulic and mechanical Engineer. Ten years' experience in building and operating Hydraulic Compresses, Steam Engines and Locomotives. Can handle men to best advantage. Best of references. O. J. MORRIS, Opelika, Ala.

**LOCATION WANTED.**  
For a large MACHINERY PLANT, with capital invested of \$250,000 and employing 100 hands, mostly skilled labor: will enlarge and employ 200 to 300 hands in new location; have been in successful operation thirty years; want free site and additional capital; location must be within easy freighting distance of New York. Address ED. N. KIRK TALCOTT, C. E., 57 Broadway, NEW YORK.

## WANTED TO LEASE

3,500 TO 5,000 TONS OF STEEL RAILS, new or second hand, fit to relay, for a term of years, with privilege of purchase. Address

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Care of MANUFACTURERS' RECORD.

## PARTNER WANTED

To take an interest in BRICK WORKS equipped with Quaker and Penfield machines and Shaver Dryer. Must be experienced and competent to carry on the manufacture of common, pressed and ornamental brick and drain tile, while advertiser looks after the financial part of the business. Works located in North Alabama. Clay suitable for red white, buff or chocolate brick. References exchanged. Address

"S. B. W.,"  
Care of MANUFACTURERS' RECORD.

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190 horse-power Steel Return Tube Boiler, second-hand, with Pump, Heater and Filter.  
175 horse-power Engine, second-hand.  
Boiler nearly new and first-class in every respect.

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**Fine Office Furniture and Folding Beds.**  
Brass and Wire Work. 215 Wabash Av. A. H. Andrews & Co., Chicago.

## SOUTHERN BANKS.

Below is published a list of Banks and Bankers in the Southern States whom the MANUFACTURERS' RECORD commends to its readers:

## GEORGIA.

AUGUSTA—Georgia Railroad & Banking Co., Chas. H. Phipps, President. Capital \$4,300,000.

MACON—American National Bank, Wm. H. Burden, President. Capital \$250,000.

MACON—Exchange Bank, H. J. Lamar, President; J. W. Cabaniss, Cashier. Capital and surplus \$350,000.

MACON—First National Bank, J. C. Plant, President. Capital and surplus \$200,000.

## SOUTH CAROLINA.

COLUMBIA—Carolina National Bank, W. A. Clark, President. Capital \$100,000.

## VIRGINIA.

BUENA VISTA—Buena Vista Loan & Trust Co., C. E. Guyer, Pres. Capital \$100,000.

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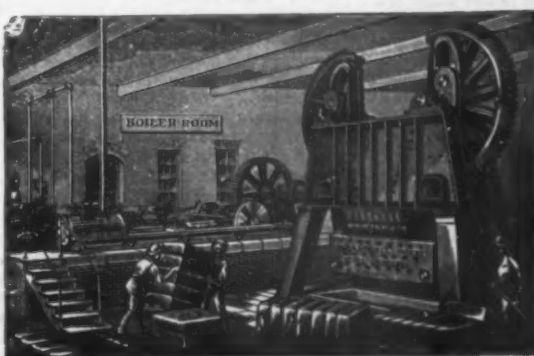
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# CONSTRUCTION DEPARTMENT.

**WE PUBLISH, every week, a list of every new factory, of whatever kind, projected anywhere in the South; every railroad undertaken, and every mining company organized. This information is always fresh, and, by enabling manufacturers to correspond with the projectors of such enterprises before their supplies of machinery have been purchased, is of great value. Manufacturers will find it to their interest to read this department carefully each week.**

\*Means machinery is wanted, particulars of which will be found in "Machinery Wanted" columns.

†In correspondence relating to matters reported in this paper, it will be a favor if it is stated that the information was gained from the MANUFACTURERS' RECORD.

## ALABAMA.

Birmingham—Agricultural-Implement Factory. I. P. Gilbert, of Michigan; J. T. Lee and E. R. Thurman, of Tennessee, have, it is reported, incorporated the Mammoth Manufacturing Co. to manufacture agricultural implements. The capital stock is said to be \$1,750,000, but there is probably some error in the report.

Birmingham—Pump Works.—The Morris Avenue Machine Works has introduced in its plant the manufacture of the Jones water packed plunger pump.

Bridgeport—Stove Works.—A stove works plant, to employ about 40 hands, will be established. The Bridgeport Development Co. can give information.

Bridgeport—Broom and Brush Factory.—A broom and brush factory, to employ about 40 hands, will be established. The Bridgeport Development Co. can give information.

Dadeville—Box Factory and Planing Mill.—W. R. Hudnall is erecting a box factory, as reported lately; also planing mill will be operated.

Guntersville—Lounge, Sash, Door and Blind Factory.—The Nedofik Manufacturing Co. has started a lounge factory, also sash, door and blind factory.

Montgomery—Cotton Compress.—It is stated that preparations are being made for the erection of a large cotton compress at Montgomery.

Montgomery—Machine Shops.—The Louisville & Nashville Railroad Co. (office, Louisville) will, it is stated, erect repair shops and roundhouse in Montgomery.

Montgomery—Machine Shops.—The Alabama Midland Railway Co. has purchased the Montgomery machine shops of the Louisville & Nashville Railroad Co. and will operate same; the purchase price was about \$35,000.

Piedmont—Broom Factory.—E. C. Gardner and A. W. Perry have started a broom factory, and will operate as the Piedmont Broom Co.

## ARKANSAS.

Black Rock—Lumber, etc., Mill.—W. E. Cook, R. P. Dickerson and Jerome Dickerson have incorporated the Arkansas Shingle & Lumber Co. with a capital stock of \$10,000.

Fort Smith—Flour Mill.—The Fort Smith Milling Co. will rebuild its flour mill recently burned; will have daily capacity of 150 barrels.\*

Helena—Machine Shop and Planing Mill.—The Snyder-Romans Co. has erected machine shop and will erect a planing mill.\*

Hope—Electric-light Plant and Water Works. The board of alderman will receive sealed proposals until December 3d for all the labor and material required to construct the system of water works recently mentioned and an electric-light plant in accordance with plans and specifications now on file. Each bid must be accompanied by a certified check for at least 2 per cent. of the amount bid. J. H. Black, mayor.

Madding—Cotton Gin.—G. L. Madding has rebuilt his cotton gin, recently burned, and resumed operations.

Motz—Planing Mill.—Moore & Wells will immediately rebuild their planing mill, recently reported as burned.

Red Store—Cotton Gin.—C. E. Toney will rebuild next summer his cotton gin recently burned.\*

Texarkana—Furniture Factory.—James, R. H. and G. L. Bryant have incorporated the Texarkana Furniture Manufacturing Co. to operate their fur-

niture factory, recently reported as being removed to Texarkana. The capital stock is \$80,000.

Washington—Real Estate.—The Hempstead County Abstract & Real Estate Co. has been incorporated with R. B. Williams, president. The capital stock is \$10,000.

## FLORIDA.

Anthony—Phosphate Mines.—A. Lutz and W. M. McDowell, of Hagerstown, Md.; E. H. Miller and others have organized the Maryland Phosphate Co. to develop phosphate mines near Anthony.

Anthony—Phosphate Mines.—Dr. Holmes, of Cedar Rapids, Iowa; H. S. Kedney, of Winter Park, and New York parties will, it is stated, organize a stock company to develop the Cassler phosphate tract and a part of the Kendrick property, near Anthony.

Anthony—Phosphate Mines.—The Excelsior Phosphate Co., managed by W. V. Knott, of Leesburg, is developing phosphate deposits near Anthony.

Anthony—Phosphate Plant.—Messrs. Lutz & McDowell will, it is stated, establish a 100-ton phosphate plant near Anthony.

Bartow—Phosphate Mines.—Jay Shrader, J. T. Wear, G. A. K. Stevens and others are organizing the Mastodon Phosphate Co. to mine phosphate in Lake Hancock and erect plant; erection of same will commence in about three weeks.

Branford—Grist Mill and Gin.—C. Gilbert has erected a cotton gin, as recently reported; also a grist mill.

Cora—Grist Mill and Gin.—F. W. Abbott has erected a grist mill and cotton gin, as reported lately.\*

Fernandina—Electric-light Plant.—The Fernandina Light & Power Co. will, it is stated, improve and increase the capacity of its electric-light plant.

Fernandina—Brush Factory.—An Atlanta (Ga.) party will, it is reported, erect a brush factory in Fernandina. S. L. Loomis can give information.

Midland—Irrigating Plant.—W. McF. Oren is reported as having put in an irrigating plant.

Mt. Dora—Packing-house.—R. C. Freeman & Son are building a packing-house.

Ocala—Phosphate Mines, etc.—A French syndicate is reported as having purchased the phosphate properties of the Peninsular Phosphate Co. for the sum of \$129,000.

Orlando—Wine Distillery.—E. Dubois, of Tallahassee; C. G. Trash, of New York, and others will organize the Florida Star Wine Co. with a capital stock of \$30,000 to erect a factory in Orlando for the manufacture of wine from grapes and oranges.

Pensacola—Gas Works.—The Pensacola Gas Co. is putting new machinery in its gas works, as lately reported.

South Jacksonville—Phosphate Mines, etc.—The Little Bros. Fertilizer & Phosphate Co., recently mentioned, will also erect a second acid chamber, and will develop phosphate lands in Marion and Polk counties.\*

St. Marks—Shingle Mill, etc.—J. A. Graham, S. B. Sturdivant, D. C. Wilson and others have incorporated the St. Marks Manufacturing Co. with a capital stock of \$50,000, including the shingle mills at St. Marks of the Graham Lumber Co.

St. Andrew's—Saw Mill.—Lee Willett is reported as putting new machinery in his saw mill.

Sutherland—Electric light and Power Plant.—Imhoff & Elliott, of Lincoln, Neb., may erect an electric-light and power plant in Sutherland.\*

Tampa—Transfer Company.—W. B. Henderson, M. W. Carruth and J. D. Spencer have incorporated the Tampa Transfer Co. with a capital stock of \$25,000.

Tavares—Ice Factory.—St. Clair Abrams is negotiating with Northern parties relative to the establishment of an ice factory in Tavares.

## GEORGIA.

Athens—Steam Laundry.—M. Jankower is reported as having established a steam laundry.

Atlanta—Phosphate Mines.—Philip Dodd, Aaron Haas, G. B. Everett and others have incorporated the High Grade Phosphate Co.; capital stock \$750,000.

Brunswick—Canal.—W. E. Burbay, I. W. Lamb, W. G. Brantly and others are the incorporators of the Brunswick & Altamaha Land Co., previously reported. The capital stock is \$200,000. This company has for its object the construction of a canal from Turtle river, or bay, Glynn county, to Altamaha river.

Brunswick—Harbor Improvements.—The proposition made to the city by a syndicate headed by C. P. Goodyear to deepen the channel at Brunswick, mentioned in our last issue, has been accepted.

Cartersville—Cotton Mill.—Endeavors are being made to organize a stock company to erect a

cotton mill in Bartow county. A. R. Steele, of La Fayette can give information.

Cumming—Cotton Gin.—Hawkins, Son & Westbrook have enlarged their ginney and put in new machinery.

Fickling—Cotton Gin.—W. H. Fickling expects to rebuild his cotton gin recently burned.\*

Macon—Fertilizer Factory, etc.—The Farmers' Supply Co. has been organized to manufacture and deal in fertilizers and to import German kainit. A. M. Rodgers is president, and A. C. Fulton, secretary and treasurer.

Madison—Electric-light Plant.—The electric-light plant previously mentioned is now being installed.

Milledgeville—Brick Works.—J. W. McMillan will erect an additional building to his brick works and put in machinery to manufacture terracotta, roofing tile, etc., as reported last week.

Oglethorpe—Clothing Factory.—The Oglethorpe Garment Manufacturing Co. has been organized for the manufacture of men's clothing.

Sparks—Saw and Planing Mill.—Messrs. Beckwith & Rogers intend to erect saw and planing mill, dry kilns, etc.

Tallahassee—Mineral Lands, etc.—B. F. Hand and C. P. Moore have incorporated the Union Realty Association to deal in mineral and timber lands, etc. The capital stock is \$100,000.

## KENTUCKY.

Cloverport—Brick and Terra-cotta Works.—The Acme Brick Co., previously organized with a capital stock of \$100,000, has commenced work on the erection of its brick and terra cotta works, which will have a daily capacity of 5,000.

Covington—Bridge.—George Bullock, S. R. Benton, C. B. Smirall, of Cincinnati, Ohio, and others have incorporated the Cincinnati & Covington Rapid Transit Bridge Co. for the purpose of constructing a bridge across the Ohio river to connect Madison avenue, in Covington, and Race street, in Cincinnati. The capital stock is \$5,000,000.

Louisville—Tobacco Factory.—The Brown Tobacco Co., of Montgomery City, Mo., has, it is stated, purchased the tobacco factory of Theodore Schwartz & Co. at Louisville for \$13,000, and will put new machinery in and operate same.

Middlesborough—Land.—The Middlesborough Town Co., recently mentioned as having secured \$1,250,000 for the further development of its property, has reorganized as the Middlesborough Town Lands Co. with E. L. Powers, president; E. M. Materson, vice-president; E. M. Reser, secretary, and J. M. Brooks, manager.

Owensboro—Creamery.—The Owensboro Creamery Co. has been organized with J. W. Slaughter, president; J. G. Delker, vice-president, and Samuel Calhoun, secretary, for the purpose of operating the creamery lately mentioned as to be established by R. M. Conway.

Richmond—Flour Mill.—J. C. Carroll will, it is stated, erect a roller process flour mill of 50 to 75 barrels capacity.

## LOUISIANA.

Baton Rouge—Ice Factory.—The Louisiana Ice & Cold Storage Co., recently mentioned, will put in new machinery to have daily output of 25 tons.

Goldman—Cotton Gin.—W. H. Buck will rebuild his cotton gin recently burned.\*

Logansport—Saw Mill, etc.—The First National Bank of Chicago, Ill., has, it is stated, purchased the saw mill and other property of the River Lumber Co., at Logansport, for \$35,510.

Monroe—Drug Factory, etc.—The Ousachita Drug Co., Limited, has been incorporated with M. A. McHenry, president; T. O. Brewer, vice-president, and E. F. Buckingham, secretary, to manufacture chemical and pharmaceutical compounds and preparations, etc. The capital stock is \$100,000.

Monroe—Car Shops, Iron Foundry, etc.—A Texarkana (Texas) party is in correspondence with J. J. Harper relative to the organization of a stock company for the establishment of an iron foundry, machine and car shops in Monroe.

New Orleans—Cottonseed oil Mill, etc.—The Louisiana Oil Co. has been incorporated with Ambrose A. Maginnis as president, for the manufacture of cottonseed oil, soap, paper stock, etc. The capital stock is \$50,000.

## MARYLAND.

Baltimore—Electric-light and Power Plant.—An Edison incandescent electric-light and power plant may be erected in Baltimore, as efforts are now being made to organize a \$1,000,000 stock company for that purpose.

Baltimore—Publishing.—J. M. Littig, J. P. Shannon, E. V. Hermange and others have incorporated the Catholic Mirror Publishing Co., purchased the Catholic Mirror from the Baltimore Publishing Co. and will continue its publication. The capital stock is \$20,000.

Baltimore—Power-house.—Site has been purchased at North Avenue and Barclay street for one of North Avenue Electric Railway Co.'s power-houses.

Baltimore—Water Works.—The Roland Park Co., Blackstone Building, wants bids on the construction of its water works, previously reported.\*

Baltimore—Manufacturing.—The Syncrete Manufacturing Co. has been incorporated, with a capital stock of \$125,000, by C. C. Isaacs, A. W. Bostwick, C. S. Read and others.

Baltimore—Manufacturing.—Plans and specifications are being prepared for the erection of a six story building to cost \$250,000 for a Baltimore manufacturing company.

Cumberland—Cement Works.—The Cumberland & Potomac Cement Co. has, as stated recently, increased its capital stock from \$25,000 to \$50,000.

Curtis Bay (P. O. Baltimore)—Power-house, etc. The South Baltimore Electric Railroad Co. (office, 8 E. Lexington street) has let contract to Rutherford & Seddon for the construction of its road, including the power-house mentioned last week and car-house.

Elkton—Water Works.—A new company, known as the Maryland Water Co. of Cecil County, has been incorporated to construct water works. The incorporators are J. G. and G. M. Johnson, of Baltimore; George McQuilkin and others.

Lonaconing—Water Works.—R. M. Boyd, G. W. Clark, William Byers and others have incorporated a \$25,000 stock company to construct the system of water works previously mentioned.

North East—Brick Works.—The Wakefield Fire Brick Co. is enlarging its brick works by the erection of an additional building.

Port Deposit—Granite Quarries.—B. Kepner has organized the Port Deposit Granite Co. to operate the Union granite quarries.

Taneytown—Molasses Factory.—Charles M. Hess has, it is stated, established a molasses factory.

Woodberry—Cotton-duck Mill.—Theodore and James E. Hooper have purchased and will operate the cotton-duck mill of the Druid Mills Co.; the price paid was about \$350,000.

Washington, D. C.—Electric-light and Power Plant.—Walter Hanson, Luke Strider and Frank Aldrich have incorporated the Hanson Battery Light & Power Co. to produce and furnish electricity for light and power. The capital stock is \$1,500,000.

## MISSISSIPPI.

Bee Lake—Grist Mill and Gin.—Peter James will rebuild his grist mill and cotton gin recently burned.\*

Ellisville (P. O. Ellisville Depot)—Saw Mill.—B. L. Lowry, of Coosa Valley, Ala., will, it is stated, remove his saw mill to Ellisville and operate same under the name of Lowry, Carter & Co.

Jackson—Mining.—The Interstate Petroleum Co. has been incorporated with J. H. Compton, president; C. M. Williamson, first vice-president, and J. F. Robinson, secretary. This company has for its object the development of more than 15,000 acres of land in Putnam, Overton, Fentress and Cumberland counties, Tenn.

Long Beach—Iron Works.—The P. B. Hand Manufacturing Co., of Handsboro, will, it is stated, erect in Long Beach a factory for the manufacture of patented iron articles.

Ripley—Creamery.—A company has, it is stated, been organized to establish a creamery.

Ocean Springs—Saw Mill.—Parker Earle & Sons will erect a new saw mill on the south side of Fort Bayou.

## NORTH CAROLINA.

Alma—Planing Mill.—W. E. Miller and E. S. Lathrop have erected a planing mill, as lately reported; the plant has been in operation for several months.

Asheville—Street Paving.—The Osborn Brick Manufacturing Co., of Blacksburg, S. C., has, it is stated, received contract for the manufacture of the vitrified brick to be used in paving the streets of Asheville.

Carthage—Cotton Mill.—The stock company to erect a cotton mill, recently reported, will organize with J. C. Block, president, and R. D. Roane, treasurer; capital stock, \$30,000.

Durham—Slate Quarry.—J. J. Thaxton will develop a slate quarry in Person county.\*

Greensboro—Bed and Mattress Factory.—J. C. Williams will start a spring bed and wire mattress factory.\*

Greensboro—Tobacco Factory.—The citizens and Farmers' Alliance will organize a \$10,000 stock company for the purpose of establishing the co-operative tobacco factory lately mentioned.

Greenville—Lumber Mills, Real Estate, etc.—J. C. McNaughton, W. D. Pender, Carroll Foster



and others have incorporated the Carolina Land Co. to manufacture lumber, construct wharves and bridges, deal in real estate, etc. The capital stock is \$1,000,000.

**King's Mountain—Gold Mine.**—P. R. Elam will probably develop a gold vein.

**New Berne—Pine-straw Factory and Saw Mill.** As stated last week, W. H. Bell, of Branchville, N. J., has purchased Peter Mallett's pine straw factory and will erect a saw mill; a stock company will be organized to operate the plants.\*

**New Berne—Canning Factory, etc.**—George W. Moore, Martin Wagner, B. H. Farren and others have incorporated the North Carolina Packing Co. to can fish, oysters, fruits, manufacture lime, cans, etc. The capital stock is \$35,000.

**New Berne—Tobacco Factory.**—P. L. Thomas, of Durham, will establish a tobacco factory, as stated last week.

**New Berne—Barrel Factory.**—Jones & Co., of Elizabeth City, have, it is stated, made arrangements for the establishment of a barrel factory in New Berne.

**Wilmington—Bottling Works.**—The Palmetto Brewing Co., of Charleston, S. C., will, as reported last week, establish bottling works in Wilmington.

#### SOUTH CAROLINA.

**Anderson—Tannery.**—Casper L. Shrimp, of Cincinnati, Ohio, will, it is reported, establish a tannery in Anderson.

**Anderson—Cotton Mill.**—The Anderson Cotton Mills contemplate doubling its capacity by enlargement of building during the coming year.

**Branchville—Casket and Furniture Factory.**—Efforts are being made for the organization of a \$50,000 stock company for the purpose of establishing a casket and furniture factory.

**Charleston—Fertilizer Works.**—The Berkeley Phosphate Co. purposes rebuilding its phosphate works, reported last week as burned at Ashley Junction.

**Charleston—Cotton Compress.**—The East Shore Terminal Co. will erect another cotton compress in the spring.

**Greenville—Desk, etc., Factory.**—The Gates Desk Co. will put in new machinery to increase the capacity of its desk factory.

**Rock Hill—Cotton Mill.**—The Standard Cotton Mills will put in 60 new looms.

#### TENNESSEE.

**Bristol—Publishing.**—The Bristol Courier Co., previously reported as organized to continue the publication of the Bristol Courier, has been incorporated by John and Charles Slack and others.

**Chattanooga—Canning Factory.**—The Fruit Growers' Association is making arrangements for the establishment of a canning factory at Chattanooga. For information address L. J. De Sabla.

**Chattanooga—Foundry and Machine Works.**—It is reported that the Chickamauga Foundry & Machine Co. has purchased and will operate with doubled capacity the Tennessee Iron Fencing Co.'s plant; also remove to Chattanooga and operate the hay-press factory of J. M. Sanders & Co. at Dalton, Ga.

**Chattanooga—Lumber Mill.**—The Woodworth Lumber Co. will reorganize and resume operations.

**Chattanooga—Printing Works, etc.**—Lane, Kuster & Chauncey have purchased and will operate the printing works and bindery of Reynolds & Hickman.

**Chattanooga—Rubber Factory.**—It is stated that a New Jersey firm is negotiating with the East End Land Co. relative to the establishment of a \$100,000 rubber factory in Chattanooga.

**Chattanooga—Saddlery.**—The Williams-Sharp Saddlery Co., of Knoxville, mentioned last week, expects to remove its plant to Chattanooga.

**Chattanooga—Cigar Factory.**—The Cleveland Cigar Factory, of Cleveland, is reported as to be removed to Chattanooga and as to double its capacity.

**Chattanooga—Trunk Factory, etc.**—G. E. McKenney & Co. may erect a new building for their trunk factory; possibly may add box factory.\*

**Clarksburg—Ore Washers.**—The Gracy-Woodwood Iron Co., mentioned last week, will erect two ore washers at the Louise iron mines.\*

**Clinton—Hub, Spoke, etc., Factory.**—J. M. Sanders & Co., of Cleveland, have, it is stated, purchased site in Clinton and will erect a hub, spoke and fellow factory.

**Erwin—Shingle Mill.**—Daniel Wetzell, of Grand Rapids, Mich., is investigating with a view of establishing a shingle mill at Erwin.

**Harriman—Brick Works.**—The Harriman Brick & Building Co. has put a new boiler in its brick works.

**Jonesboro—Electric-light Plant.**—The Watauga Electric Light & Power Co. is reported as to light the town of Jonesboro with electricity.

**Knoxville—Wagon Works.**—Ohio manufacturers are corresponding relative to the establishment of a branch wagon factory in Knoxville. Secretary Chamber of Commerce can give information.

**Knoxville—Land Company.**—The Cherokee Land Co. has decided to increase its capital stock in order to complete several of its improvements.

**Lenoirs—Electric-light Plant.**—Dempster & Plummer will put an electric-light plant in their flour mill, as reported lately; contract has been let.

**Limestone—Buggy and Carriage Factory.**—Nels Walker is reported as erecting a buggy and carriage factory.

**Morristown—Tobacco Factory.**—George E. Cathron and others have organized a \$10,000 stock company for the purpose of establishing a tobacco factory.

**Murfreesboro—Cryolite and Lead Mines.**—A St. Louis (Mo.) syndicate, represented by W. May, has been investigating, it is said, with a view of making a proposition to Mr. Rucker for the development of the Lascasas cryolite and lead mines near Murfreesboro.

**Pulaski—Grist Mill and Gin.**—T. L. Smithson is rebuilding his cotton gin recently burned.\*

#### TEXAS.

**Austin—Machine Shops.**—The Houston & Texas Central Railway Co. (office, Houston) is reported as to erect repair shops at Austin.

**Austin—H. W. Dodge, Jr., W. H. Stacy and J. E. Shipman** have incorporated the Typewriter Supply & Stationary Co. with a capital stock of \$10,000.

**Austin—Abattoir.**—The Austin Butchers' Association has, it is stated, purchased site from Mr. Johnson on which to erect the local abattoir.

**Calvert—Electric Light Plant.**—The Calvert Water, Ice & Electric Light Co. will put in an electric-light plant.

**Cleburne—Water Works.**—As stated recently, L. W. Chase has purchased a half interest in the Cleburne water works plant.

**Dallas—Portrait Company.**—Marion A. Pillsbury, E. G. Knight and F. D. Hammond have incorporated the Dallas Portrait Co. with a capital stock of \$15,000.

**Dallas—Water Works.**—The city has let contract at \$74,800 for the construction of a 10,000-gallon pump at the new water works lately reported.

**Denton—Cotton Gin.**—Gotcher Bros. have rebuilt their cotton gin recently burned.

**Eastland—Silver Mines, New Town, etc.**—The Silver Pass Mining Co. has been organized with W. A. Grice, president; J. M. Clark, of Dallas, vice-president, and W. J. Godsey, of Cleburne, secretary, to develop the silver mines recently discovered at the new town of Olden near Eastland. The capital stock is \$1,000,000.

**Flatonis—Foundry and Machine Shops.**—E. P. Hawland is reported as to erect an iron foundry and machine shops.

**Galveston—Lace Factory.**—Investigations are being made by a German capitalist for the establishment of a \$100,000 factory in Galveston to manufacture Nottingham lace.

**Galveston—Thomas H. Sweeney, J. B. Woolford, Charles Fowler and others** have incorporated the Galveston Red Snapper Fish & Turtle Co. with a capital stock of \$50,000.

**Ganse—Cotton Gin.**—W. A. Jones has recently erected a cotton gin.

**Hamilton—Flour Mill.**—Frank Fisher is reported as having purchased the Hamilton Roller Mills property.

**Houston—Brick Works.**—R. C. Storrie, of Fort Worth, lately mentioned as having received contract for about \$400,000 worth of street paving in Houston, will erect a plant to supply daily 50,000 bricks for the work.

**Houston—Vinegar Factory.**—Robert Ogden will start a vinegar factory, as lately reported.

**Marble Falls—Cotton and Woolen Mills.**—F. H. Holloway is making efforts for the establishment of a cotton and woolen mill in Marble Falls.

**Myrtle Springs—Investment.**—The Texas Immigration & Industrial Co. has amended its charter, changing its name to the Myrtle Springs Investment Co.

**Pittsburg—Cotton Mill.**—The erection of a cotton mill is proposed.

**Rockdale—Cottonseed-oil Mill.**—The Rockdale Cottonseed Oil Co., previously reported, has completed its mill and put it in operation; capacity 25 tons.

**Running Water—Land Improvement, etc.**—C. C. Slaughter, of Dallas county; Dennis Rice, G. M. Slaughter and others have incorporated the Running Water Land, Townsite & Improvement Co. with a capital stock of \$25,000.

**San Angelo—Electric-light Plant, Water Works, etc.**—The San Angelo Electric Light, Power & Irrigation Co., reported in our last issue as organized to erect an electric-light plant, develop a water-power, etc., has been incorporated with a capital stock of \$20,000.

**Santa Lucia—Cotton Gin and Flour Mill.**—A cotton gin and flour mill is reported as to be erected.

**Tolosa—Cotton Gin.**—I. F. Alexander will rebuild his cotton gin recently burned.\*

**Taylor—Ice Factory.**—The Taylor Ice Co. is reported as to put new machinery in its ice factory.

**Van Alstyne—Cotton Gin.**—R. L. Bowen & Co. will, in the spring, rebuild their cotton gin recently burned.

**Vernon—Flour Mill.**—Messrs. Leeper & Phillips will erect a flour mill, as reported in our last issue.

**Victoria—Cotton Gin.**—N. C. Gullett will endeavor to organize a stock company for the purpose of erecting a cotton gin.

**Victoria—Electric Light Plant.**—The Victoria Light, Power & Ice Co. is reported as to put a new dynamo in its electric-light plant to increase the capacity of same.

**Waco—Artesian Well.**—John Sleeper, George Diehl, Seth Mills and others have incorporated the College Heights Artesian Water Co. of McLennan county. The capital stock is \$10,000.

#### VIRGINIA.

**Be'field—Veneering Factory and Planing Mill.** A veneering factory is reported as having been put in operation, and a stock company as erecting a planing mill.

**Boone's Mill—Tannery.**—A New York company is negotiating with a view of establishing a tannery in Boone's Mill.

**Charlottesville—Street Improvements.**—The city will issue \$20,000 of bonds, \$12,000 of which is to be used for street improvements. The mayor can give information.

**Christiansburg—Iron Mines.**—A syndicate has purchased for \$10,000 and will develop the red hematite ore deposits near Christiansburg.

**Covington—Tannery.**—Negotiations are pending for the establishment of a tannery at Covington.

**Fincastle—Lime-kiln.**—S. F. Patterson is erecting a patent lime-kiln, as reported last week, and will erect several more after operations have commenced.\*

**Goshen—Rolling Mill.**—It is reported that the Goshen Land & Improvement Co. has closed contract with Mr. Sylvester and others to put in operation the Goshen rolling mill.

**Graham—Cider Factory.**—L. Schereschewsky is reported as to start the manufacture of cider in connection with his bottling works.

**Manchester—Tannery.**—A. D. Shotwell & Co. will immediately rebuild their tannery, reported last week as burned.

**Portsmouth—Furniture and Organ Factory.**—A \$20,000 stock company has been organized to erect at Port Norfolk the organ factory recently mentioned; also a furniture factory in connection with same. For information address M. W. Mason.

**Radford—Lumber Mill.**—Stuart Miller, of New York, and G. B. Kimball will, it is stated, erect a mill for the manufacture of oak, pine and poplar lumber at Radford.

**Roanoke—Boulevard.**—It is proposed to construct a boulevard from Roanoke to Salem. Secretary Commercial Association can give information.

**Roanoke—Car Works.**—It is rumored that a \$1,000,000 car works plant will be erected in Roanoke. The Buena Vista Land Co. can give information.

**Roanoke—Mineral-fibre Plant.**—A mineral-fibre plant may be erected in Roanoke. The Buena Vista Land Co. can give information.

**Roanoke—Planing Mill.**—L. Powers, of Philadelphia, Pa., is reported as having purchased the Rose planing mill of W. H. Oliver & Co.\*

**Salem—Clothing Factory.**—A clothing factory is reported as having been removed from Abingdon to Salem.

**Saltville—Calcare Plant.**—The Buena Vista Plaster Co. is erecting a calcare plant at its plaster works near Saltville. Machinery has all been ordered.\*

**Staunton—Steam Laundry.**—A steam laundry will probably be established.

**Lynchburg—Electric-light Plant.**—The Piedmont Electric Illuminating Co. has put a new boiler in its electric-light plant.

**Walkerton—Saw and Planing Mill, etc.**—Wilson & Taylor, of Maryland, will, it is stated, start a saw and planing mill at Walkerton, and also establish a canning factory in connection with same in the spring.

#### WEST VIRGINIA.

**Berkeley County—Coal Mines.**—J. L. Hatch, of Rochester, N. Y., has recently organized a company to develop 20,000 acres of coal lands in Berkeley and Morgan counties.

**Bluefield—Bed-spring, etc., Factory.**—Emmons & Wilson have, it is stated, organized a stock company for the manufacture of bed springs, mattresses, etc.

**Charleston.**—W. B. Donnelly, Frank Woodman, A. J. Winkler and others have incorporated the Charleston Wharfboat Co. with a capital stock of \$20,000.

**Fairmont—Construction.**—O. J. Sand and others have incorporated the Fairmont Investment & Construction Co.; capital stock \$250,000.

**Fairmont—Coal Mines.**—Charles M. Stewart and others, of Baltimore, Md., have incorporated the Palatine Coal Co. of Fairmont. The capital stock is \$35,000.

**Gauley Bridge—Lumber Mill.**—The Gauley Bridge Lumber Co. reported last week as incorporated, has started a lumber mill; machinery all purchased.

**Hambleton—Coke Ovens.**—The H. G. Davis Coal & Coke Co. is reported as to build a coke plant at Hambleton.

**Huntington—Electric Plant.**—The Huntington Electric Light & Street Railway Co. has put a new dynamo in its electric plant.

**Kingwood—Lumber Mill.**—A syndicate of Philadelphia (Pa.) capitalists have, it is reported, purchased the Kunkle timber lands of 5,000 acres in Preston county for the sum of \$50,000, and will establish a lumber mill for the development of same.

**Maybeury—Coke Ovens.**—The Shamokin Coal & Coke Co. will, as reported in our last issue, erect 100 more coke ovens at its coal mines; work on same will commence at once.

**McDowell County—Coal Mines, etc.**—William Buery, of Shamokin, Pa.; J. & T. H. Cooper, of Coopers; T. L. Henrits, of Bramwell, and others have incorporated the McDowell Coal & Coke Co., of McDowell, McDowell county. The capital stock is to be not less \$8,000 nor more than \$20,000.

**Moundsville—Water Works.**—The city is contemplating the construction of a water works system. For information address the mayor.

**Moundsville—Electric-light Plant.**—The Fostoria Glass Co. will put an electric-light plant in its glass factory.

**Tucker County—Coke Ovens.**—The H. G. Davis Coal Co. is reported as to build 1,000 coke ovens at Williams in Tucker county.

**Weston—Gas and Oil Wells, etc.**—S. E. Barrett, R. M. Patterson, J. W. Williams and others have incorporated the Weston Oil, Gas & Mining Co. with a capital stock of not more than \$300,000.

**Weston—Electric-light Plant, etc.**—The Weston Electric Light, Power & Water Co. has increased its capital stock to \$15,000, and will put new machinery in its electric-light plant.

**Wheeling—Lath Mill, etc.**—The Bostwick Fire-Proof Steel Lath Co., recently reported as incorporated to manufacture the Bostwick patent lath, etc., has completed its organization with J. A. Miller as president, and T. W. Phinney, secretary and treasurer.

#### BURNED.

**Abilene, Texas.**—Hornbuckle & Co.'s cotton gin.

**Avondale, Ala.**—The Birmingham Safe & Lock Co.'s works; loss \$150,000.

**Bonham, Texas.**—The cotton gin and grist mill of J. E. Dale.

**Cedartown, Ga.**—The Cedartown Furniture Factory; loss about \$9,500.

**Charleston, S. C.**—The cotton gin, press, etc., of J. A. Goldsmith; loss \$10,000.

**Cheap Hill, Tenn.**—The saw mill of Bell & Crocker.

**Dalingerfield, Texas.**—The cotton gin and grist mill of Rine & Bowle at Avengeur.

**Dalingerfield, Texas.**—The saw mill of T. C. Connor, near Dalingerfield.

**Gallatin, Tenn.**—The saw mill of Harper & Strother, near Gallatin.

**Greenville, Texas.**—S. M. Johnson's cotton gin.

**Griffin, Ga.**—The grist mill and cotton gin of J. T. Manley and R. H. Thompson; loss about \$6,000.

**Griffin, Ga.**—The grist mill and cotton gin of J. T. Manley, near Griffin.

**Lewisburg, Tenn.**—The saw and planing mill of Joseph McBride, near Spring Place.

**Plaquemine, La.**—The drying-house of the Plaquemine Lumber & Improvement Co.

**Rome, Ga.**—The excelsior factory and cotton gin of W. M. Towers.

**Sharpsburg, Ky.**—The saw mill of D. W. Parsons.

**Shelby, N. C.**—The Laurel Cotton Mills, near Shelby; estimated loss \$30,000.

**Vienna, Ga.**—J. C. Hunter's saw mill.

**West Point, Miss.**—The Mann mill; loss \$8,000.

The cotton gins of W. A. Amis, at Greenwood, Ga.; B. F. Sancer, Shackleville, Ala.; Lanis & Toiers, near Dodd City, Texas; loss \$6,000; the Fritz Gin, near Sherman, Texas; James W. Small, near Norfolk, Va.; J. T. Spradley, near Caldwell, Texas; Jesse Hutto, Clayton, Ala.; W. T. Rutledge, Hyram, Ala.; J. A. Butler, near Lancaster, Texas; J. L. Smith, Huntsville, Texas; Green Rivers, Mansfield, La.; Chance & McAlexander, McMoresville, Tenn.; A. L. Sims, Midlothian, Texas; James Jones, near Austin, Texas; Mr. Willie, near Louisville, Ga.; J. R. Gilstrap, near Franklin, Texas; loss \$6,000; Crabtree & White, Iredell, Texas; A. J. Harden, Wayland, Texas; P. C. Watson, near Durant, Miss.; G. L. Norman, near Ferris, Texas; Julian and Goode Price, near Leesburg, Ga.; Mr. Abner-nethy, Okolona, Miss.

## Building Notes.

Alvord, Texas.—Hotel.—The Brown Hotel is reported as to be rebuilt on a larger scale.

Ashland, Ky.—Crump & Fields have commenced the erection of a four story store building, 50x100 feet.

Austin, Texas.—Hall.—The Young Men's Christian Association contemplates the erection of a \$25,000 building.

Baltimore, Md.—Joseph F. Kraus will erect 24 two-story brick buildings; Pepper Bros., 3 two-story brick dwellings; Adam Miller, 12 two-story brick buildings; R. H. Harrison, three story brick building; Charles J. Bonayarte, three story brick dwelling; Justus Miller, 3 two-story brick dwellings, and F. Holaway, 10 two-story brick dwellings.

Baltimore, Md.—Church.—Teal & Smith have contract for the erection of the edifice previously reported for the Martin Luther Church. L. F. Lentz, of Washington, prepared the plans.

Berkley, Va.—Depot.—The Norfolk & Southern Railroad Co. (office, Norfolk, Va.) will, it is stated, build a passenger depot in Berkley.

Berkley, Va.—Lane Bros. will, it is stated, erect two brick store buildings.

Berkley, Va.—Market-house.—A market-house is to be built. The mayor can give information.

Bluefield, W. Va.—J. A. B. Bruce, of Ingleside, has awarded contract for the erection of a three-story brick block, and T. L. Cook will build a two-story brick block.

Boone's Mill, Va.—Hotel.—J. W. Absher contemplates erecting a hotel.

Bridgeport, Ala.—Church.—The erection of an edifice to cost about \$5,000 for the Presbyterians has been commenced. A. H. Gould prepared the plans.

Brunswick, Md.—G. S. Ramsburg is said to contemplate the building of a block of houses.

Charlestown, W. Va.—Depot.—Work will soon be commenced on the erection of a two story brick addition to the freight depot of the Chesapeake & Ohio Railroad Co. (office, Richmond.)

Chattanooga, Tenn.—Jail.—The city authorities contemplates the erection of the jail building mentioned in last issue at a cost of about \$10,000. Plans have not as yet been adopted. Garrett Andrews, mayor, can give information.

Chattanooga, Tenn.—Office Building.—The Central Guarantee Life Association has offered to erect a \$100,000 office building in Chattanooga on certain conditions.

Chattanooga, Tenn.—A. J. O'rne, of Atlanta, Ga., is said to be considering the erection of a business block on Chestnut street.

Chattanooga, Tenn.—The Odd Fellows' Building & Loan Association has been incorporated by H. N. Willis, J. P. Andrews, G. W. M. Dowell and others.

Chattanooga, Tenn.—Hotel.—It is rumored that a six story hotel, 100x150 feet, will be built at Cherry street and Georgia avenue.

Clifton Forge, Va.—Mr. Sachs is reported as to erect a large three-story brick building, and A. J. Ford and D. A. Williamson two brick buildings.

Clifton Forge, Va.—Hotel.—E. R. Green will, it is stated, prepare plans for remodeling the Nettleton Building for hotel purposes.

Clifton Forge, Va.—Opera-house.—J. C. Carpenter contemplates building an opera-house.

Columbus City, Ala. (no postoffice).—The organization of the Columbus City Cottage Retreat Co., with a capital stock of \$50,000, to build cottages is contemplated. W. H. Stoker, Room 80, No. 1 Beacon street Boston, Mass., can give particulars.

Conway, Ark.—Hall.—R. S. Truett, of Russellville, has secured contract to erect the hall building previously mentioned for the Knights of Pythias.

Corpus Christi, Texas.—Sanitarium.—M. T. Chapman, of Aurora, Ill., will build the sanitarium reported in last issue. It is to be 114x130 feet and have 60 bath rooms. E. H. Silven is preparing the plans.

Cuero, Texas.—John Stratton contemplates erecting a three-story brick store building.

Dawson, Ga.—Church.—Contract for building the edifice lately mentioned for the Baptist Church has been awarded to the Dawson Variety Manufacturing Co. at \$12,500. Bruce & Morgan, of Atlanta, prepared the plans.

Donaldsonville, La.—Bank Building.—A building will be erected for the Bank of Donaldsonville.

Donaldsonville, La.—Depot.—The Texas & Pacific Railway Co. (office, Dallas, Texas) will, it is stated, build a depot in Donaldsonville.

Douglasville, Ga.—Hall.—G. H. Kennerly & Co., of Anniston, Ala., are preparing plans for the erection of a library building and music hall to cost about \$9,000. J. S. James can be addressed.

Douglasville, Ga.—J. S. James is erecting an office, hall and store building, designed by G. H. Kennerly & Co., of Anniston, Ala. The estimated cost is \$6,500.

Elkins, W. Va.—Hon. R. C. Kerins, of St. Louis, Mo., is reported as to build a fine residence.

Fort Worth, Texas.—Clubhouse.—The B. P. O. E. ks contemplates building a clubhouse to cost from \$25,000 to \$40,000.

Fort Worth, Texas.—Stable.—Marlow Bros. will build a two-story brick stable 75x100 feet.

Gadsden, Ala.—J. M. Moragne intends erecting a two story business building.

Galveston, Texas.—Theatre, etc.—The South Galveston Land Co. will, it is stated, build a theatre and zoological garden at South Galveston to cost \$100,000.

Galveston, Texas.—Public Building.—W. J. Edbrooke, supervising architect, Treasury Department, Washington, D. C., again advertises for proposals to be received until December 14 for all the labor and materials required for the approaches, etc., to the United States custom house, etc., building at Galveston.

Greensboro, N. C.—Church.—The Presbyterians will probably build another church.

Harriman, Tenn.—Hotel.—Otis W. Snider, of Lexington, Ky., is said to be arranging to build a \$50,000 hotel in Harriman.

Harriman, Tenn.—Church.—Architect Heffer is preparing plans for the erection of an edifice for the Presbyterians.

Haskell, Texas.—Courthouse.—Lamour & Watson, of Austin, have, it is stated, secured contract at \$43,500 for building the Haskell county courthouse lately mentioned.

Helena, Ark.—College.—The erection of a \$15,000 college building is contemplated.

La Grange, Ga.—Jail.—M. L. Fleming will receive bids until January 4, 1892, for the erection and completion of the jail and sheriff residence for Trece county lately mentioned.

Leesburg, Fla.—College.—W. N. Jackson, of Lane Park, will, it is stated, build a college for the colored Methodists.

Lexington, Ky.—Hall.—The Independent Order of Odd Fellows will, it is stated, erect a \$30,000 hall building next spring.

Little Rock, Ark.—H. P. Bradford and G. R. Brown contemplates the erection of a large dwelling.

Little Rock, Ark.—Warehouse.—Louis Koers intends erecting a corrugated iron warehouse.

Moundsville, W. Va.—Opera-house.—The erection of an opera-house is contemplated. The Moundsville Mining & Manufacturing Co. can give particulars.

Moundsville, W. Va.—The Home Construction & Improvement Co. has been organized with L. C. Stifel, of Wheeling, W. Va., president; L. B. Martin, of Fostoria, Ohio, vice president, and W. S. Fosse, secretary.

New Orleans, La.—School Buildings.—Warren Easton, superintendent, reports that contract has been let for the erection of a school building on Esplanade avenue to cost about \$8,000.

Newport News, Va.—F. N. Pike, of Old Point, has awarded contract to Mr. Lamoureux for the erection of a three story brick store buildings.

Newport News, Va.—Opera house.—The Old Dominion Opera House Co. has been organized with T. H. Gordon, president; Joseph Charles, vice-president, and W. J. Fitzsimmons, secretary, to build the opera-house mentioned in last issue. Architect Teague is preparing the plans.

Newport News, Va.—Depot, Piers, etc.—The Chesapeake & Ohio Railroad Co. (office, Richmond), previously reported as to build a depot, is said to contemplate the construction of a two-story brick passenger depot, 80x35 feet; a train shed 250 feet long, and passenger and freight piers. The cost of the improvements will, it is stated, aggregate about \$500,000.

Norfolk, Va.—The Norfolk Real Estate & Investment Co. will erect a three-story brick and marble business building.

Norfolk, Va.—The United Workingmen's Building & Loan Association has been chartered with G. W. Ganey, president, and Robert Bagnall, Jr., secretary.

Paris, Tenn.—Opera house, etc.—W. C. Johnson contemplates erecting several brick business houses with opera hall above, and G. W. Upchurch will erect a business building.

Parkersburg, W. Va.—City Hall.—O. S. Philpot, of Wheeling, will prepare plans for the erection of the city hall building lately mentioned.

Piedmont, Ala.—Mrs. Penny and John Cowden will each erect a two story brick business building.

Pine Bluff, Ark.—W. B. Bowles has been awarded contract at \$7,690 to build a residence for Dr. J. F. Simmons. Architect Kusener, of Little Rock, prepared the plans.

Port Gibson, Miss.—Synagogue.—The Jewish congregation has awarded contract to J. F. Barnes for the erection of a brick synagogue to cost \$10,000.

Portsmouth, Va.—Church.—The Methodist Laymen's Union will, it is stated, build a church. E. V. White can give information.

Pulaski, Va.—Church.—The colored Baptists contemplates building a church.

Quitman, Ga.—Courthouse.—Bruce & Morgan, of Atlanta, are preparing plans for the improvement of the Brooks county courthouse. Bids will be invited at an early day.

Radford, Va.—Hospital.—Brothers de Saussure & Waters, of Roanoke, have completed plans for the erection of the hospital previously mentioned. The main building is to be 40x75 feet and built with a view to adding two wings.

Radford, Va.—The New River Furniture Co. is reported as to erect a two story building, 50x165 feet.

Raleigh, N. C.—Hotel.—A. F. Page, of Aberdeen, referred to in last issue, will build a 50-room hotel with all modern improvements.

Richmond, Va.—The Virginia Building, Loan & Trust Co. has been chartered with J. E. Jones, president, and W. P. Dabney, secretary. The authorized capital stock is \$500,000.

Roanoke, Va.—It is stated that W. J. & L. Blair will erect five brick buildings on the Rorer Park Hotel property.

Roanoke, Va.—Opera-house.—As stated in last issue, F. J. Amweg has contract for building the Academy of Music.

Roanoke, Va.—M. A. Johnson and E. A. Thurman will erect a three-story brick store building on Henry street.

Rome, Ga.—Courthouse.—Contract for building the courthouse for Floyd county, lately mentioned, has been awarded to the Blue Ridge Marble Co., of Nelson, Ga., at \$79,975. The structure is to be built of Georgia marble. Bruce & Morgan, of Atlanta, prepared the plans.

Seacy, Ark.—College.—The erection of a building for a Baptist State female college is proposed.

Sanley, Va.—The Stanley Furnace & Land Co. contemplates erecting a storehouse.

Sanley, Va.—Warehouse.—S. E. & W. A. Kite are reported as to build a warehouse.

Staunton, Va.—Church.—It is contemplated to enlarge and improve the edifice of the Methodist Church South, at a cost of from \$6,000 to \$7,000. B. T. Bagby can give particulars.

St. Petersburg, Fla.—Hotel.—Ramsey & Ba'clock have contract for building an addition of 70 rooms to the Hotel Detroit.

Suffolk, Va.—Church.—An edifice 109x48 feet will be built for St. Paul's Church at a cost of from \$12,000 to \$14,000. Rev. H. L. Derby can give particulars.

Sutherland, Fla.—Hotels and Sanitarium.—J. J. Imhoff, lately reported as to build a sanitarium, is a member of the firm of Imhoff & Elliott, of Lincoln, Neb., which has purchased the San Morino and Gulf View Hotels. They will not build a sanitarium this year.

Titusville, Fla.—Jail.—Brevard county contemplates erecting a jail building in Titusville to cost \$9,000. The county clerk can give information.

Velasco, Texas.—Churches.—The Baptist and Methodist denominations each contemplate building a church. Rev. S. P. Brown can be addressed relative to the Methodist edifice.

Velasco, Texas.—Depot.—The Velasco Terminal Railway Co., referred to in last issue, has awarded contract to C. H. Remington for the erection of a passenger depot 22x70 feet, and to Tibbitts & Stevenson for a warehouse 40x65 feet.

Vernon, Ala.—Courthouse.—Lamar county proposes building a \$15,000 courthouse in Vernon. The county clerk can give information.

Vernon, Texas.—Church.—The building committee of the Cumberland Presbyterian Church is receiving bids for the building of an edifice.

Vicksburg, Miss.—Club Building.—Contract for erecting the club building for the B. B. Literary Association has been awarded to J. M. Ryan. Architect Stanton prepared the plans. The estimated cost is \$20,000.

Victoria, Texas.—As stated in last issue, Bailey Bros. secured contract for the erection of a two story business house for F. R. Prichard.

Walterboro, S. C.—Bank Building.—A two-story brick bank building will be erected for the Walterboro Loan & Savings Bank.

Washington, La.—Schoolhouse.—The building of a schoolhouse is contemplated. The mayor can give information.

Wheeling, W. Va.—Office Building.—The Reymann Brewing Co. has commenced the erection of a two story office building.

Wichita Falls, Texas.—W. A. Caan has prepared plans for a two-story residence for R. E. Huff to cost \$6,500.

Wilmington, N. C.—Courthouse.—Contract for building the courthouse lately mentioned for New Hanover county has been awarded to Valentino & Brown, of Brunswick, Ga., at \$36,500. It is to be a two story stone and brick building, 101x72 feet, with a 60 foot tower. A. S. Eichberger, of Savannah, Ga., prepared the plans.

## World's Fair Notes.

The Council of the Society of Arts, which is the Royal British World's Fair Commission, after listening to the highly favorable report of Commissioners Sir Henry Wood and James Dredge relative to their investigation of exposition matters at Chicago, decided to appoint committees on finance, fine arts, Indian, colonial, engineering, manufactures, electricity, agriculture, mines and metallurgy, textile industries and transportation, and also a committee on women's work to co-operate with the board of lady managers in Chicago. It also voted to invite the assistance of chambers of commerce and local committees throughout England.

The Council of the American Society of Mechanical Engineers has appointed a committee to devise and recommend a series of efficiency tests of engineering appliances. On this committee are Chas. E. Emery, who was in charge of the steam boiler tests at the Centennial Exposition, and Prof. R. H. Thurston, of Cornell University, who was a commissioner to the Vienna Exposition of 1873 and a member of the jury of the Paris Exposition of 1889.

W. A. Alexander and Louis Gelder, representing the insurance associations of Chicago, have asked for space 50 by 100 feet to construct a building at the fair to constitute an exhibit of the most improved methods of fire-proof construction and the appliances used in saving goods from burning buildings. The building, it is urged, can be occupied by a salvage corps during the fair.

One of the interesting exhibits from Montana will be a relief map of Butte, the greatest mining camp in the world. It is reported that Montana's appropriation of \$50,000 will be doubled at the next session of the legislature.

The Chicago Paper Trade Club, which includes the prominent manufacturers and dealers in paper in Indiana, Illinois, Michigan and Wisconsin, has decided to make the best exhibit of paper manufacturing and its machinery and appliances ever held under one roof. The display will show the actual manufacture of paper in all grades from wood pulp to the highly finished look, and the exhibit will be conducted every day during the time of the exposition. The finished product is to be run through a perfecting press and printed and sold as a souvenir.

Commissioners Groner and Lindsay and Directors Lawrence and Peck have been appointed a committee to call on President Harrison and on the Secretary of the Navy to ascertain what, if any, expense of the naval rendezvous at Hampton Roads and review in New York harbor in April, 1893, should be borne by the exposition management. Many are of the opinion that the government ought to foot the bill.

Mr. Sell, the London advertising agent, has applied for space to exhibit specimens of all of the leading newspapers of the world which have been printed during the last two centuries.

Mr. Takahira, Japanese consul-general in New York, who was specially commissioned by the Mikado to look into exposition matters, has made a formal application to Director-General Davis for 124,100 square feet in the several buildings and on the Midway Plaisance, as follows: For an official Japanese Building 40,000 square feet, in the Manufacturers' Building 35,000, Agricultural Building 4,000, Fine Arts 2,000, Mines and Mining 750, Forestry 350, Bazaars 42,000. Mr. Takahira was formerly secretary of the Japanese legation at Washington, and speaks English fluently. He says the Japanese are greatly interested in the exposition, and will soon make a very large appropriation for participation.

I. M. Weston, president of the Michigan World's Fair Board, writes to Chief Buch-



anan asking for a large space in the Forestry Building. He says Professor Beal, of the Michigan State Agricultural College, will make an exhibit in the Forestry Building of lathes, shingles, paper pulp and lumbermen's tools. In addition to Professor Beal's exhibit, Mr. Weston says he will make an exhibit of the methods of lumbering—logging, logging railway trains, trucks, sleighs, pictures, etc.—and will show two sections of logs to be cut this winter. He says he has issued circulars to the lumbermen of the State to save such sections. It is his intention to make the features of the Michigan exhibit forestry, fruit, fish and minerals. A committee of 15 lumbermen has been appointed, all of them millionaires and all of them taking great interest in the work. Professor Beal will spend about \$50,000 in collecting specimens of the 70 varieties of trees in Michigan and the several hundred varieties of what the professor calls shrubs—that is, trees under six inches in diameter. The specimens of the standard trees which he will collect will be eight feet long. Professor Beal had charge of the Philadelphia lumber exhibit, which was burned. He is the best authority on trees and grasses in Michigan and perhaps in the country, his work on grasses being a recognized standard authority.

### Augusta's Fine Exposition.

[Special Cor. MANUFACTURERS' RECORD.]  
COLUMBIA, S. C., November 13, 1891.

If the people of the South, far and near, do not respond to the exposition now being held in Augusta, Ga., they will miss one of the finest shows that was ever held in the South, and there is every reason why excursions of the best people from all parts of the country should be directed Augustawards between now and the 28th of the month, the date for the closing of the exposition.

Augusta is advertising her exposition as a permanent institution—"Augusta, the home of the Augusta exposition"—and this year's exhibit is entitled to the highest praise. It is pretty well understood throughout the country now that Augusta never does anything by halves, but that all her undertakings are of a heavy nature. \$3,000,000 in a canal and \$6,000,000 in cotton factories, and \$2,500,000 in other factories, all within the last few years, in addition to \$72,000,000 of trade, attest this fact. The present exposition buildings, grounds and equipment cost, three years ago, when the property was on the suburb, \$109,000, and the property is now valued at beyond \$200,000. The buildings are very fine, very large, commodious and imposing, being one of the largest buildings of any kind in the South. The management of the exposition is very prominent, having at its head no other than the Hon. Patrick Walsh, of Augusta, a national figure, and a man known all over the country for his patriotism, practical enterprise in building up the South, and fine business sense. The directorship is composed of the richest and best financiers of Augusta, and the entire enterprise has the confidence and respect of the whole Southeastern region without jealousy.

The MANUFACTURERS' RECORD editorially and through its correspondent has repeatedly called attention to the Augusta Exposition with good effect, but the chances still are that the event will pass off without fully and properly impressing a majority of the right people of the South with its true magnitude and importance, though the financial success of the enterprise is assured by the people of the Georgia and South Carolina territory surrounding Augusta, who are flocking to the exposition. But the MANUFACTURERS' RECORD is determined that the exposition shall not fail in any sense if its efforts may count to any effect.

As an instrument of instruction to

Southern people in mechanical appliances and new and improved manufacturing methods, the Augusta Exposition stands without a superior among Southern expositions, outside of the large affair at New Orleans held in 1885. And the Augusta people have meant it to be so. They have spared no money to secure a complete exposition to be satisfactory to the most distant visitors. Attention is directed to back numbers of the MANUFACTURERS' RECORD on these points.

In electricity the list of the following exhibits will open the eyes of a great many people, as it is the best electrical exhibit ever collected in the South, and no doubt will summon many people to attend the exposition before the closing date on the 28th of November (the exposition opened on November 2d).

#### LIST OF THE ELECTRICAL EXHIBITS AT THE AUGUSTA EXPOSITION.

Crocker & Wheeler Electric Motor Co. Thompson Houston Electric Co., Lynn, Mass.

Whittier Machine Co. (who have erected an electric elevator at a cost of \$3,000 in the rotunda of the Exposition buildings running to the high dome).

E. S. Greely Electrical Co., New York.

Phoenix Glass Works, Pittsburg, Pa. (exhibiting glass work for electrical fixtures).

C. & C. Electric Motor Co., Boston.

Germania Electric Co., Boston.

Electric Time Co., New Haven.

Johns Pratt Co., New York.

Consolidated Electric Manufacturing Co., Boston.

Perkins Electric Switch Co., Hartford, Conn.

Heisler Electric Light Co.

Electric Construction & Supply Co., New York.

Universal Arc Co., New York.

Reese Electric Specialty Co., Baltimore.

Holtzer-Cabot Electric Co., Boston.

The American Electric Ice-Making Co.

Thompson & Robertson Battery Co., New York.

Why should not every Southern reader of the MANUFACTURERS' RECORD interested in electricity visit this unsurpassed exhibit, at once commending the enterprise of the Georgians and reaping ideas for personal profit in improving and extending business?

In cloth manufactures the exhibit is particularly strong, and the fact will doubtless go without gainsaying that it is the finest exhibit of the kind the South has yet had. In the machinery departments the cotton mills of Augusta, augmented by loom and spindle work of Northern localities, show the processes of cotton and other kinds of cloth manufacture from beginning to end, with all the latest appliances, offering the finest possible opportunity to parties in the South contemplating embarking in these growing enterprises and who need information and instruction in these lines.

Augusta is the largest lumber manufacturing city in the South, and the exhibit in the exposition of the Augusta Lumber Co. is large and beautiful, illustrating in the greatest degree what can be done with Southern lumber under Southern skill.

The agricultural, mineral and timber exhibits are worth seeing, as illustrating the southeast region of country, and the exhibits in all the other usual lines of expositions are worthy in a degree seldom seen.

The Exposition Co. occupies a commanding position in the South; is, we believe, an established institution, and will grow and become one of the most valuable and potent and widely recognized factors of Southern development because of the enterprise of the citizens of the city in which it is situated and the scope which they give and maintain for it. I commend it as a worthy enterprise, Southern, ever national, in its character.

HUGH C. MIDDLETON.

## AT WINSTON-SALEM.

### The Importance of the Forthcoming Auction Sale of Lots.

The Plans and Purposes of the Winston-Salem Land & Investment Co.—What Can Be Secured on November 24.

[Special Cor. MANUFACTURERS' RECORD.]

NORTH CAROLINA HEADQUARTERS OF THE MANUFACTURERS' RECORD, WINSTON-SALEM, N. C., Nov. 16, 1891.

Next Tuesday, November 24, the Winston-Salem Land & Investment Co. will hold its first auction sale of town lots. It is expected that a large attendance of outsiders, especially from the eastern section of North Carolina, will be in attendance.

It is a noteworthy fact that the people of North Carolina are the foremost in the ranks of those who appreciate the multifarious advantages the Piedmont section possesses in the way of soil, climate and opportunities for speedy development, and that the main support of the various projects for development of this section has come from those who are most thoroughly acquainted with the natural resources of this region.

There can be no question of the statement that North Carolina is one of the greatest fields for enterprise on the Continent to-day. And by those who are informed it is conceded that Winston-Salem is now and always must be the most important industrial city in the State.

For what it is and what it must become, every development enterprise here is of not only local and temporary interest, but of general and permanent importance.

In this connection it is interesting to note what is said of this forthcoming sale in an article issued in circular form by the land company which will hold the sale on November 24:

"The Winston-Salem Land & Investment Co. owns 518 acres of land adjoining the city of Winston-Salem on the south. The property is admirably adapted to the uses for which it is intended.

"About 150 acres of the property is a beautiful plateau overlooking the Twin Cities and commanding one of the finest views to be found in the whole Piedmont section of North Carolina. From a gently receding slope the eye takes in the romantic city of Salem and the beautiful grounds of the time honored Salem Academy, while just beyond are the smokestacks and towering walls of the famous factories of Winston.

"Few cities anywhere have such admirably located suburban property. The residence portion of the addition is most charmingly situated, the business section is admirably adapted for the purpose for which it was intended, and the manufacturing sites offer every inducement in the way of transportation facilities, eligible location, etc., which the most exacting prospector could require.

"The entire property is connected with Winston-Salem by an extension of the excellent electric street-car system for which Winston-Salem has become famous. By a contract made with the Electric Street Car Co. of Winston-Salem, the lines of this system have been extended to the furthest bounds of the company's property. The track has been laid in the most substantial manner, and cars are now running over the entire new line.

"In addition to the street-car service of one and a-half miles, there are macadamized streets and sidewalks, water works, electric lights, and, in fact, all the advantages given by any city in the country of two or three times the size of all Winston-Salem.

"This land company has spent between \$75,000 and \$80,000 in various improvements, and has done vastly more in the line of public improvements than any

other town in the South has attempted during the past year.

"One of the strongest possible proofs of the conservative values of real estate in Winston-Salem, and of the lots owned by the Winston-Salem Land & Investment Co., is the fact that it has sold during the present summer nearly \$60,000 worth of lots at private sale to residents of Winston-Salem, almost every one of which was bought with the view of immediate improvement as the place of residence by the purchasers. The men who bought these lots live here and know real estate values. They bought not for speculation, but because they liked the property and believe it to be worth all and more than its cost price.

"Already eight handsome residences are in course of construction, and many more are to be built at once.

"Prominent business men of Winston-Salem have purchased a slightly and most beautifully located spot upon this property, on which is now being erected one of the handsomest clubhouses in the State, and near it will be built by the opening of spring a large and commodious pavilion, which, together with its beautiful park of 18 acres, watered by three springs, shaded by massive oaks, hickories, etc., all encircled by a winding drive 60 feet wide, makes this property unusually attractive for suburban residences.

"The plans of the company have been laid on a most comprehensive scale. The picturesque plateau overlooking Winston-Salem and the hills and vales on either side has been laid off into residence lots, to which every benefit of street-car line, macadamized streets, water works and electric lights will give the advantage of every modern convenience. Another section has been set apart for manufacturing sites. Through this will run the Southern extension of the Roanoke & Southern Railroad, and side-tracks will give every switching facility desired. Another section has been set apart for business purposes, and the topography of the land, together with the advantages of railroads and street-car lines, will offer every convenience which a business section would require. In fact, this is a town within itself. Take Winston-Salem from the map, reduce the natural wealth and resources of Forsyth county by one-fourth and give to the Winston-Salem Land & Investment Co. the location they now have, the business ability and enterprise of its promoters, and the railroad, street car, water works and electric-light privileges it has secured, and there would inevitably be built up on the property of this company a city of commercial and industrial importance and a residence town of attraction to the capitalist such as could hardly be found in any other section of the New South to-day. In a city whose importance as a manufacturing center has been established, where lots are now in demand for immediate use, whose growth is rapid and continuous, whose reputation for activity and solidity is second to none in the State, what may not be reasonably expected in the line of development and material advancement in the very near future?

"As already stated, extending through the business portion of this property is the Southern extension of the Roanoke & Southern Railroad. On the grounds of the company at the southern terminus of its street-car system will be located a depot. About half a mile from this depot is the flourishing manufacturing village of Wauha-town, a well-established community of 1,500 people; and in another direction about one-fourth of a mile is the thriving hamlet of Centerville, of about 400 population. These places are prosperous manufacturing towns, and inhabited entirely by white people. Centerville has already felt the stimulating effect of this company's operations.

"There are over 300 residence and busi-



ness lots and manufacturing sites located within 100 yards of the street railroad. Only 100 of these lots are offered for sale now. However, should any purchaser desire it he will be given a chance to bid on any lot in the company's entire property. The 100 lots intended for sale at this time are regarded by the company as the choicest of their holdings, and at this, the first public sale, an opportunity will be given to secure the best lots in the addition at such prices as the public may deem right and proper.

"This public sale will be made a special occasion for Winston-Salem. Reduced rates will be secured on all the railroads leading into the city, and ample accommodation will be afforded to all who come here on that day. The electric street-car line will have in operation all of its Winston-Salem extensions, which cover a mile and a half of the company's property. Over all this entire line the streets are now being macadamized and sidewalks laid, the contract requiring that the whole work shall be finished by December 1.

"Settlers upon the property will have every convenience of transportation, water, telephone service, electric lights and macadamized streets obtainable in the city and at the same cost. Car fare to and from any point in the city is five cents. The water is the purest, supplied by the Salem Water Supply Co. from the famous Reynolds Springs recently purchased by it at a cost of \$5,000. Hydrant and water rent is the same as charged by this company to the citizens of Salem.

"Of interest in connection with the development of this company is the bridge over Wachovia brook at the point where Main street crosses that stream. This bridge, which is a single span 108 feet long by 55 feet wide, has just been completed. It is a beautiful structure of the latticed arched type with a capacity of 212 tons. The abutments are massive piers of cut granite. The superstructure is entirely of steel, and the bridge complete is the most substantial and beautiful in the State, and we believe in the South.

"This bridge is only an illustration of the broad and liberal policy pursued by this company in the development of its property. From the permanent and substantial character not only of this bridge, but of all the other improvements it has made, it is evident the promoters have built not only with a view to the present, but to the future as well.

"Nothing has been done upon a narrow or illiberal basis. Nothing has been done with a view to cheap and showy display. Those who have viewed the property are unstinted in their praise, and many men of extensive travel through the most prosperous cities of the South and Southwest unhesitatingly pronounce it the finest suburban development they have seen. Indeed, it is believed no land company in the South, and but few in other parts of the country, have ever undertaken such extensive and thorough town development as has been accomplished by this company. The result has fully justified the faith of the promoters in the future of their property, as the sale by it of \$60,000 worth of lots within the last few months to the citizens of Winston-Salem without advertisement or effort, and the unqualified endorsement of hundreds of competent witnesses who have recently visited the property, abundantly proves. It is simply a statement of fact to say that the unbounded confidence of the company in its property is fully shared by the safe and conservative business men of Winston-Salem, and purchasers may here invest their money with every assurance of certain and large profits. This is no old field development, but the development of a beautiful suburb of a great and growing manufacturing center.

"The streets of this beautiful addition to Winston-Salem are 60 feet wide. With a few exceptions the size of the lots is 70 feet front by 150 feet deep, with an alleyway of 15 feet behind every lot, and most of them supplied with the diversified forest growth common to this section.

"This property is not within the corporate limits of either Winston or Salem, but by an act of the legislature of 1891, it is within the police jurisdiction of Salem. Main street, the chief business thoroughfare of both Winston and Salem, which runs north and south through both cities by a perfectly straight line, and is one of the most beautiful streets in the world, a mile and a half in length, paved with Belgian blocks, has been extended by a straight line through the center of

this property, and the entire extension has been macadamized and reduced to the grade of the original street. It is over this street that the new street-car extension runs until reaching the center of the property, when it divides, one division running westward to the park and the other eastward to within a short distance of the flourishing manufacturing villages of Woughtown and Centerville. Over these lines the street cars run from six in the morning until eleven at night, making a 15-minute schedule. This extension has been in operation now for about three weeks, during which time the travel over it has averaged about 600 per day."

## DIRECT FOREIGN TRADE.

The South's General Advancement.

The broadening out of Southern advancement is illustrated this week in the official announcement of the inauguration of four regular European steamship lines from Newport News—the first regular lines to Europe from any port south of Baltimore—which must mark the beginning of an ever-increasing direct foreign trade. It is not simply intended that these steamers shall take outward cargoes, but that the import business shall be worked up with a view to bringing in foreign goods for Western distribution. Arrangements have already been made for loading about twenty steamers on these four lines before the end of the year, and heavy contracts have been made for the shipment of Western products—grain, flour, provisions, etc. The practical inauguration of these lines, through the efforts of the Chesapeake & Ohio Railroad, will necessarily force other Southern railroad systems reaching the Atlantic and Gulf ports to take steps to secure the establishment of foreign steamship lines. Thus, while the low price of cotton affects for the time being the business interests of the South, there is a steady advancement in general development that will add greatly to the volume of trade and traffic and to the prosperity of this whole section. The past week has been only a moderately active one in the inauguration of new enterprises, but the outlook is very promising for a steady, solid growth. Among some of the more important enterprises reported in this week's issue of the MANUFACTURERS' RECORD are the building of a thousand new coke ovens, the construction of a new railroad into an undeveloped timber section, and the proposed erection of large lumber mills and the sale of a tract of timber land for \$50,000 cash, all in West Virginia; a \$100,000 chemical and drug manufacturing company at Monroe, La.; a furniture factory at Athens, Ga.; a \$120,000 sale of phosphate land in Florida, and several new phosphate companies in the same State; a \$100,000 vitrified brick company at Cloverport, Ky.; a woodenware factory at Bristol, Tenn.; an \$80,000 furniture factory company at Texarkana, Ark.; a \$10,000 tobacco factory company at Morristown, Tenn.; a \$200,000 canal company in Florida; a \$35,000 canning company at New Berne, N. C.; a \$750,000 phosphate company at Atlanta, Ga.; a \$1,000,000 lumber company in Pitt county, N. C.; a \$125,000 manufacturing company at Baltimore, Md.; a \$25,000 improvement company in Hale county, Texas; a \$50,000 fish-handling company at Galveston, Texas; a \$300,000 oil and gas company, a \$250,000 improvement and construction company, a \$56,000 coal and coke company and an \$80,000 coal and coke company, all in West Virginia; a \$25,000 water company at Lonaconing, Md.; a \$50,000 cotton-seed-oil company at New Orleans, La., etc.

VALUABLE PROPERTIES of all descriptions for sale in the growing city of

**WINSTON-SALEM, N. C.**  
5 miles Electric Street Railroad. 112 Factories. Population 1882, 4,194. Population 1890, 16,471. Tobacco Center. Railroad Center. Paved Streets. The Future Metropolis of the South.

P. C. HUMPHREY, Real Estate Agent.

## MACHINERY WANTED.

If you desire to purchase machinery of any kind consult our advertising columns, and if you cannot find just what you wish, send us particulars as to the kind of machinery needed. We will make your wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. You will thus get all information desired as to prices, etc.

Air Compressor.—The Greer Machinery Co., Knoxville, Tenn., is in the market for a 14x16 second-hand air compressor, to be all on one bed-plate.

Barrel Machinery.—The Buena Vista Plaster Co., Saltville, Va., will probably need barrel machinery.

Belting.—F. W. Abbott, Cora, Fla., will want belting.

Belting.—Peter James, Bee Lake, Miss., wants belting.

Boiler.—W. H. Buck, Goldman, La., wants prices on boiler.

Boilers.—The Gracey-Woodward Iron Co., Clarksville, Tenn., will need boilers.

Boilers, etc.—Edwin Stewart, paymaster-general, Washington, D. C., will receive sealed proposals until November 24 to furnish at the Boston (Mass.) navy yard three steel boilers and two wire-rope guys. Blank forms of proposal furnished on application.

Boiler and Engine.—The Southern Emery Wheel Co., Tallapoosa, Ga., will purchase a 30 horse-power boiler and a 25 horse-power engine; also a small high-speed engine. Address W. H. Lemmon.

Boiler and Engine.—The Atlanta Traction Co., Atlanta, Ga., wants a 250 horse-power engine and boiler.

Boiler and Engine.—J. C. Williams, Greensboro, N. C., wants a 10 horse power slide valve engine; also boiler complete with stack and indicator.

Boiler and Engine.—I. F. Alexander, Tolosa, Texas, may purchase boiler and engine.

Box Factory.—G. E. McKenney & Co., Chattanooga, Tenn., may want box-making machinery.

Cars.—The Gracey-Woodward Iron Co., Clarksville, Tenn., will need mining cars.

Coal Mining.—The Greer Machinery Co., Knoxville, Tenn., is in the market for an Ingersoll or Harrison coal-mining machine, second hand, in good working order.

Coal Mining, etc.—The Tidewater Coal & Coke Co., of McDowell, W. Va., will want machinery. Address T. L. Henritze, Bramwell, W. Va.

Cold-storage Plant.—William Blair, Fort Smith, Ark., wants information on cold storage.

Cold-storage Plant.—L. L. Lieber, Jackson, Miss., wants plans and estimates on a 6,000 feet cold-storage plant.

Cotton Gin.—W. H. Fickling, Fickling, Ga., will want a 60 or 8-saw cotton gin.

Cotton Gin.—C. E. Toney, Red Store, Ark., will want cotton gin.

Cotton Gin, etc.—I. F. Alexander, Tolosa, Texas, wants price-lists and best terms on cotton gin, press, etc.

Cotton Gin, etc.—T. L. Smithson, Pulaski, Tenn., will purchase a cotton gin with feeder and condenser.

Cotton Press.—F. W. Abbott, Cora, Fla., will want a cotton press.

Cotton Press.—Peter James, Bee Lake, Miss., wants a cotton press.

Crusher.—J. J. Thaxton, Durham, N. C., will want a machine to crush slatestone and pulverize it.

Crusher, etc.—The Southern Emery Wheel Co., Tallapoosa, Ga., will purchase a crushing and grading machine. Address W. H. Lemmon.

Crusher Rolls.—The Greer Machinery Co., Knoxville, Tenn., is in the market for one corrugated slack crusher roll.

Distributor.—C. E. Toney, Red Store, Ark., wants a machine for distributing sand plaster on clover, or light commercial manures on grass or grain.

Dredging Machine.—C. B. Magruder, Rockledge, Fla., wants information as to the best possible mode of taking muck from a pond growing sour grass 8 feet high from alluvial soil.

Drill.—The Southern Emery Wheel Co., Tallapoosa, Ga., will purchase drill. Address W. H. Lemmon.

Drill Press.—The Snyder-Romans Co., Helena, Ark., will buy a drill press.

Drill Press.—James Bates, Pratt and President streets, Baltimore, Md., wants a drill press to swing 26 inches.

Dynamo.—The Tampa Bay Ice Co., St. Petersburg, Fla., wants a small dynamo.

Electric Plant.—Imhoff & Elliott, Lincoln, Neb., may want electric plant for running electrical railroad and furnishing light.

Elevators.—I. F. Alexander, Tolosa, Texas, wants price-lists and terms on elevators.

Engine.—The Greer Machinery Co., Knoxville, Tenn., is in the market for a small engine to operate crusher roll mentioned above; also wants prices on all first class engines.

Engine.—W. L. Covell, Biloxi, Miss., wants a naphtha engine of 6 horse-power for ferry-boat.

Excelsior Machinery.—The Gordon Mattress Co., Gordon, Ga., wants excelsior machines, information, etc.

Grist Mill.—Peter James, Bee Lake, Miss., wants a grist mill.

Hay Press.—C. E. Toney, Red Store, Ark., will want a hay press, either horse or steam power.

Heating Plant.—W. J. Edbrooke, supervising architect, Washington, D. C., will receive sealed proposals until December 16 for all the labor and materials required to fix in place complete, the low pressure, return circulation, steam heating and ventilating apparatus for the United States courthouse and postoffice building at Texarkana, Ark., Texas, in accordance with drawings and specifications on file.

Ice Machine.—L. L. Lieber, Jackson, Miss., wants estimates on a 15 ton ice machine.

Lathe.—The Southern Emery Wheel Co., Tallapoosa, Ga., will purchase a lathe. Address W. H. Lemmon.

Lathes.—The Snyder-Romans Co., Helena, Ark., will buy lathes.

Lathes.—James Bates, Pratt and President streets, Baltimore, Md., wants a lathe, 35-inch swing, 15 feet between centers; also one with 16-inch swing, 8 feet between centers.

Mill Buhrs.—I. F. Alexander, Tolosa, Texas, wants prices on mill buhrs.

Moulding Machine.—The Southern Emery Wheel Co., Tallapoosa, Ga., will purchase a moulding machine. Address W. H. Lemmon.

Patterns.—R. Ballauf & Co., Jefferson, Texas, want a full set of patterns for making thimble skeins, from 8 1/2 x 7 to 5 x 14; also the necessary machine to cut nut and thread on skeins.

Phosphate Mining.—The Little Bros. Fertilizer & Phosphate Co., South Jacksonville, Fla., wants machinery for developing phosphate lands.

Picker.—J. C. Williams, Greensboro, N. C., wants a hair picker.

Piping.—The Gracey-Woodward Iron Co., Clarksville, Tenn., will need piping.

Planer.—The Snyder-Romans Co., Helena, Ark., will buy a planer.

Plumbing Supplies.—Imhoff & Elliott, Lincoln, Neb., will want plumbing supplies for hotels.

Pulleys.—Peter James, Bee Lake, Miss., wants pulleys, shafting, etc.

Pulleys, etc.—I. F. Alexander, Tolosa, Texas, wants price lists and terms on pulleys, belting, etc.

Pump.—Imhoff & Elliott, Lincoln, Neb., may want a steam pump.

Pumps.—The Gracey-Woodward Iron Co., Clarksville, Tenn., will need pumps.

Pumping.—W. L. Covell, Biloxi, Miss., will need pumping machinery.

Quarrying.—S. F. Patterson, Fincastle, Va., may want quarrying machinery.

Rails.—The Oxford & Coast Line Railroad, W. F. Beasley, president, Oxford, N. C., wants 4 1/2 miles of second-hand 40-45 or 50 pound steel rails delivered at Weldon, N. C., or Portsmouth, Va.

Rails.—The Gracey-Woodward Iron Co., Clarksville, Tenn., will need T rails.

Saw Mill.—Wm. H. Bell, Branchville, N. J., is ready to negotiate for a saw mill.

Stave Machinery.—The Carson Lime Co., Riverton, Va., wants machinery for making lime barrel staves with cylinder saw.

Wagon Works.—The Fort Smith Milling Co., Fort Smith, Ark., will want some wagon working machinery, such as spoke machines, band saws, etc.

Washers.—The Gracey-Woodward Iron Co., Clarksville, Tenn., will need machinery.

Water Works.—The Roland Park Co. (office, Blackstone Building, Baltimore, Md.) wants bids for furnishing material and constructing a water works system. Plans, plats, specifications, etc., furnished on application.

Wire.—J. C. Williams, Greensboro, N. C., desires to correspond with manufacturers of woven wire cloth.

THE financial and international bearings of the Jewish persecution will be explained in the December Forum by M. Leroy-Beaulieu, who is said to be the greatest living authority on the subject. In the same number M. Camille Pelletan, a member of the French Chamber of Deputies, frankly explains the French feeling towards Germany, showing that at some time another conflict about Alsace-Lorraine is inevitable.



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### A New Planer and Matcher.

The cut herewith represents a new planer and matcher recently brought out by the S. A. Woods Machine Co., of Bos-

ton, designed to meet the requirements of mill men throughout the South and Southwest, and wherever heavy lumber is to be worked. It is readily adjusted for various kinds of work, and has every convenience

to enable the operator to do a large amount of planing. The frame is strong and substantial, the machine weighing about 16,000 pounds; the rolls are large, and driven by the im-

proved method of expansion gearing; the cylinder bearings are sufficiently heavy to stand any duty required of them. Weighted expansion chip-breaker, im-

proved clamping device, square matcher bars, etc., are among the improvements noted in the machine. Progressive mill men interested in the latest product in the line of planing machines can get descriptive circulars and other information by addressing the patentees and manufacturers, S. A. Woods Machine Co., 172 High street, Boston, Mass., or 91 Liberty street, New York.

### Movable Tramway.

The Brown patent movable tramway system is designed for the rapid handling of material in the excavation of sewers and trenches. It consists of a series of A frames, from the apices of which are suspended a continuous track-beam and rail, on which travel one or more carriers, to which are attached the buckets containing the material to be moved. A feature of the construction is that the attendant at the locality where the loads are to be raised or lowered cannot affect the movements of the bucket without the co-operation of the engineer in control of the hoisting and lowering cable at the engine-house; nor can the engineer affect similar movements without the knowledge and co-operation of the attendant. It is thus impossible for the engineer, through carelessness or misunderstanding of the usual signals, to lower a load at a time when its descent might cause an accident or injury to the men in the trench. The engine-house, which is situated at one end of the tramway, contains boiler, hoisting engine

and drums, and the gears for moving the house and contents on a track, sections of which are placed ahead as needed. When the engine-house has moved the distance of one bent the farther end of the tramway is carried forward and put in place, all coupling necessary being done on the platform top of the house. A small derrick facilitates the handling, as shown in the illustration. All parts of the appliance are so constructed that they can be easily taken apart for transportation and erection as often as occasion requires. It is equally adapted for work in quicksand, clay or rock, and does not interfere with sheet piling in a ditch or with work in progress. There being a single track, all lowering can be effected in the center of a trench, and the capacity of the buckets can be adapted to the requirements of the work or the size of the trench. The capacity of the machine is only limited by the size of the trench and the number of men working it. As buckets can be taken from any point, the men can be distributed along the trench; they also work to better advantage, because the work is all of one kind and the machine is ready to take buckets as soon as filled.

feet deep, in two days, the material being blue clay. Generally from 9 to 12 buckets are used with two carriers on the track, some being moved while the others are being filled, the loaded buckets being conveyed and dumped much faster than the men can fill the empty ones.

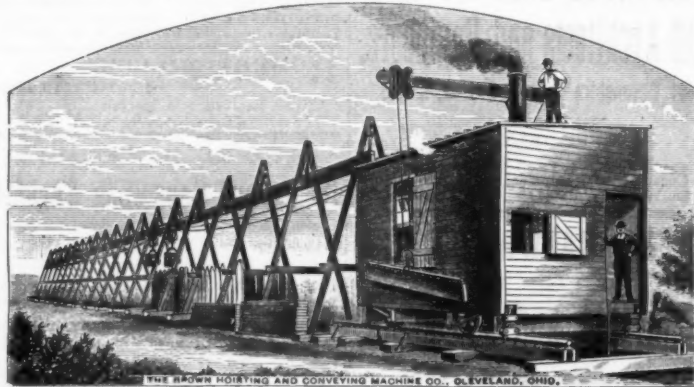
This machine has a very wide range of work and capacity, and is of a very high class of workmanship and design.

It works well either in clay, quicksand or blasted rock, and it is not necessary to bulkhead as with many machines, as the bottom of the trench slopes from the deepest part, where the finished part of the sewer is being made, to the street level, where the sewer is being commenced. As soon as the tubs are filled at points along the line of the trench they are picked up by the machine, carried to the finished work and automatically dumped thereon. If desired, they may be run over carts driven across the line of the tramways and automatically dumped into them.

The tubs employed are a patented feature, and are arranged to dump and clear themselves of clay and quicksand, thus saving time and labor.

It is apparent that the quantity excavated per day is only limited by the number of men that can be distributed along the entire length of the trench, thus avoiding the bunching of the men in spots at the end, as is often done where only a limited number are able to work.

As the tramway is only a single line with two or more tubs operating at the same



THE BROWN HOISTING AND CONVEYING MACHINE CO., CLEVELAND, OHIO.

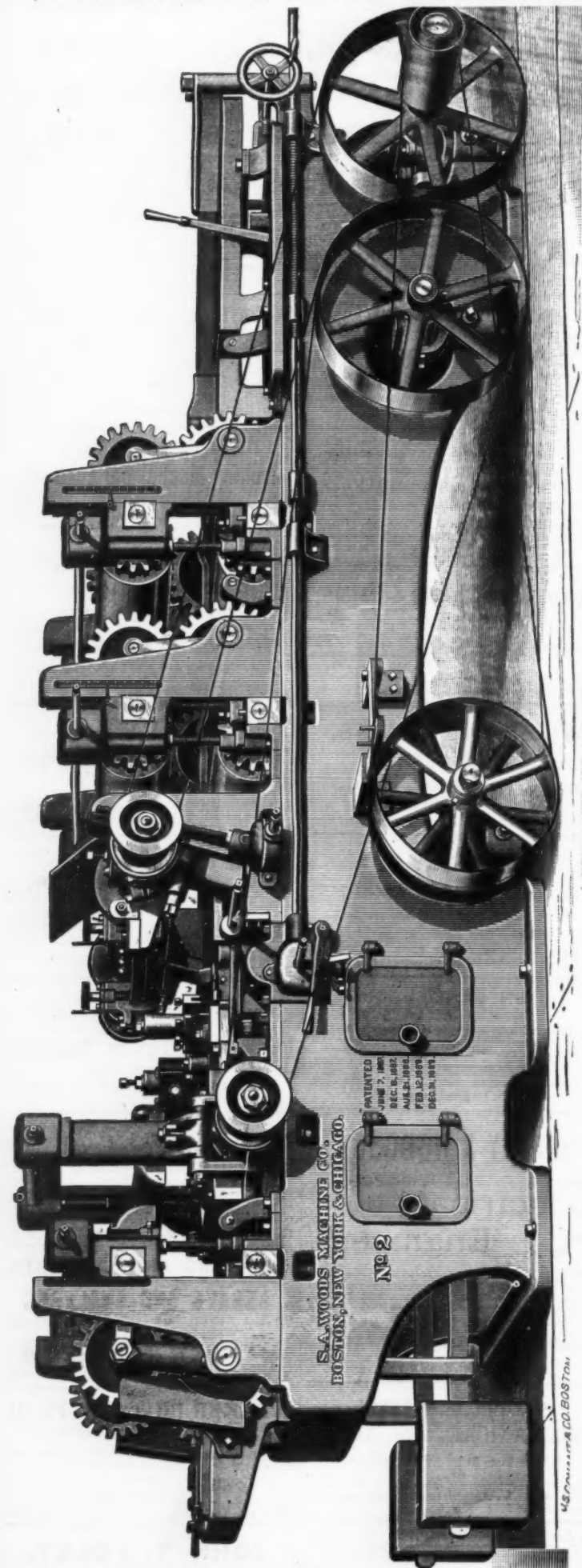
time, much larger loads can be carried than where a double track is used. The sheet piling is not disturbed, and no timbers are required for the apparatus to rest on across the trench, except the sills of the bents themselves, which are all interchangeable. These machines were designed to sell to contractors who make a business of contracting work.

This apparatus, which can be shipped and transported ready to set up and use, is furnished complete with its full equipment of sheaves, hoisting lines, tubs, hoisting engines, boiler and engine-house. The tramway is usually 350 feet long, but any length required can be furnished.

This is one of the many specialties manufactured by the Brown Hoisting & Conveying Machine Co., of Cleveland, Ohio.

Hoisting and conveying apparatus for handling phosphate, both at the mines and shipping points, is among the new labor-saving devices brought out by this enterprising company.

THE Sterling Emery Wheel Co. announce that after November 15th the new plant at Tiffin, Ohio, erected to take the place of the one destroyed by fire March 25, 1891, will be occupied. The new buildings are larger than the old ones, and have been arranged with a view to the greatest convenience and economy in manufacturing and in shipping their product. A complete line of emery-grinding machinery will be carried in stock at 174 Fulton street, New York, and also at Tiffin. A new price-list has been issued, and will be mailed upon application.



A NEW PLANER AND MATCHER.

S. A. WOODS MACHINE CO. BOSTON, NEW YORK & CHICAGO.

ton, designed to meet the requirements of mill men throughout the South and Southwest, and wherever heavy lumber is to be worked. It is readily adjusted for various kinds of work, and has every convenience

proved method of expansion gearing; the cylinder bearings are sufficiently heavy to stand any duty required of them. Weighted expansion chip-breaker, improved clamping device, square matcher



### The Evolution of the Direct-Connected Dynamo.

It is an interesting fact that the Westinghouse Machine Co. was the builder of the first direct-connected dynamos in the United States, if not in the world. In fact, the idea of a direct-connected dynamo is responsible for the Westinghouse single-

soever while the locomotive is side-tracked and the engine absent. It is evident that the one solution possible was the single-acting, self-contained and self-lubricating engine. It is interesting to note that, with no original thought beyond some special application of this kind, the above type of engine has propagated itself without essential modification until it has

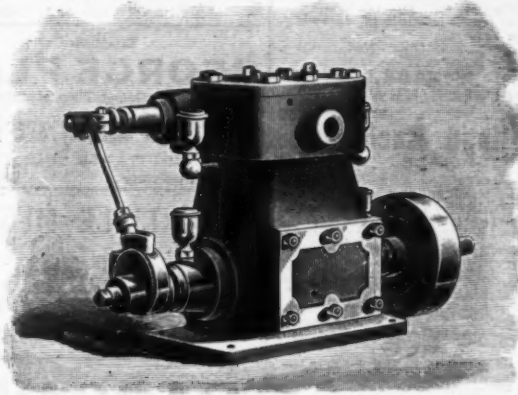


FIG. 1.—FIRST WESTINGHOUSE STEAM ENGINE, 1880.

acting engine. In 1880 the Brush Electric Co. conceived the application of the electric arc for locomotive head lights. Belt transmission being out of the question, the problem of a direct engine was laid before Mr. H. H. Westinghouse, of Pittsburg, for solution. The terms of the problem were

developed a business of the present enormous proportions, involving compound and triple expansion engines up to 1,000 horsepower.

The original engine, whose history we have recited, now fills with dignity the position of center piece in the office of

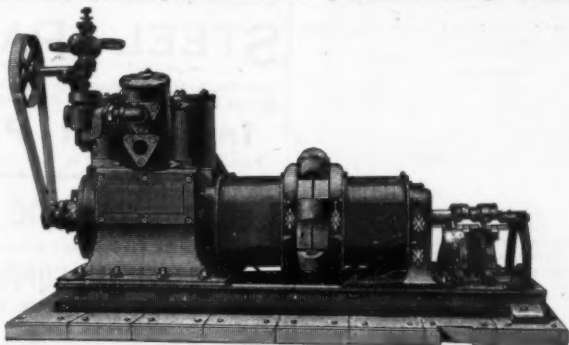


FIG. 2.—FIRST DIRECT CONNECTED DYNAMO (still in use at the U. S. Government Torpedo Station, Newport, R. I.)

stated about as follows: The speed must not be less than 1,000 revolutions, and the power developed not less than 1½ net horse-power. The engine must be able to stand up under 150 to 180 pounds of steam; it must be self-contained, so as to be bolted to the locomotive like a brake

the Westinghouse Machine Co. at Pittsburg.

A more serious attempt following the comparative success of the locomotive experiment was the constructing of several short-stroke engines developing about 10 horse-power for coupling direct to Brush

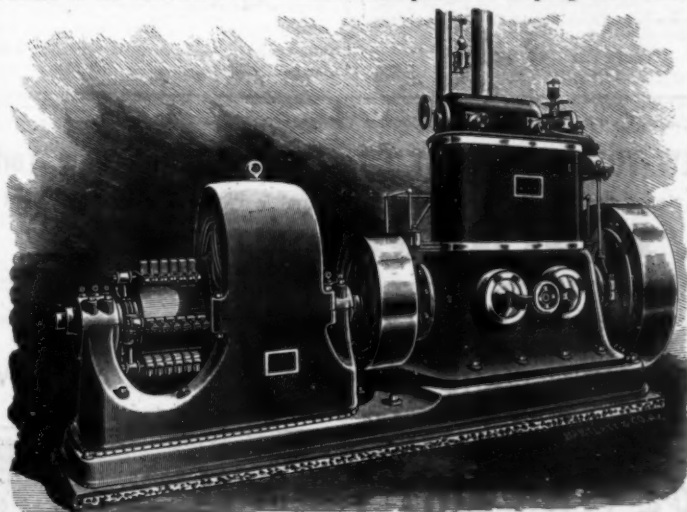


FIG. 3.—THE PRESENT WESTINGHOUSE ELECTRICAL GENERATOR.

pump; it must be sufficiently rigid, so as to stand all the shock and jar of service; it must be inclosed completely as a protection from dust and cinders, and finally, it must be capable not only of several hours continuous running without attention and of continuous service day after day, but must be of such a design as to run for an indefinite time without any attention what-

machines at 800 to 1,000 revolutions. A number of these were built and operated successfully—one at least, after ten years of service, is still regarded a reliable engine in the experimental plant of the United States government torpedo station at Newport, R. I.

The single-acting engine has fairly proved its right of inheritance to this

special trade. The primary idea of forcing an engine to an abnormal speed to meet the supposed demand of the dynamo was unnatural and wrong. The commercial conditions of electrical construction at that time prohibited any compromise, but the present state of electric art has changed all this, and the reasonable idea now prevails of cutting down the speed of the dynamo instead, to the normal speed of the engine. This is commercially possible within fair limits, and the single-acting engine, with its natural capacity for high speed, forms a complete solution of the problem.

### Combination Crozing Machine

The accompanying cut represents the latest improved Fegley combination machine for jointing, equalizing, chamfering and crozing staves for nail keys and similar work. This machine joints the staves

sired, in order that the arbors may be adjusted for cutting staves of different lengths. The usual length of staves is 18 inches, but they may be cut any length from 17½ to 18½ inches.

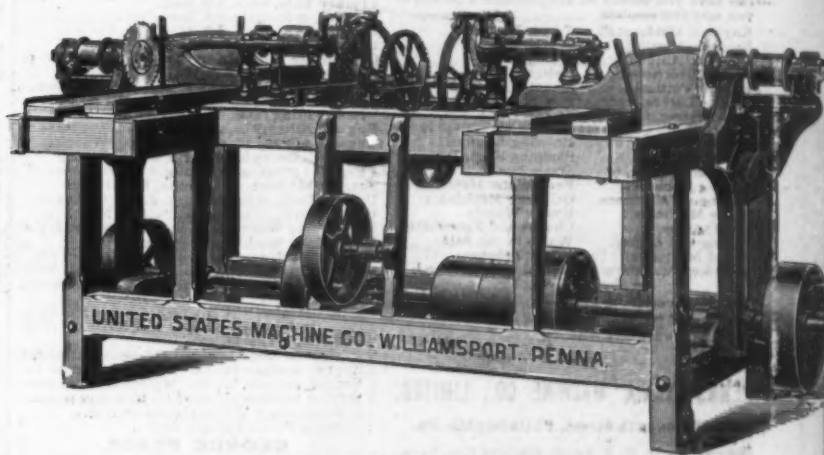
With each machine is furnished a form for setting cutters or bits, the necessary wrenches, all complete, ready to run, except the belts.

Tight and loose pulleys are on counter-shaft 10 inches diameter by 6 inches face, and run 800 revolutions per minute.

Any other information will be furnished by the United States Machine Co., Williamsport, Pa.

### Richardson's Adjustable Snap Flask.

In this illustration is shown the new Richardson adjustable snap flask. It is made of galvanized steel plate one eighth



COMBINATION CROZING MACHINE.

on the radius of a circle corresponding with the bilge of the keg, and at the same time with the diameter of the keg. By this means the staves will fit close together, and make a much stronger keg than when the staves are cut square, which leaves an opening between the staves.

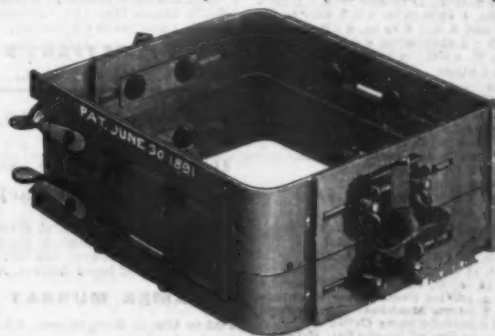
A jointing saw is shown at each end with the carriages. Attached to each carriage is a rocking gauge by which the staves are sawed straight.

After the staves have been jointed they are placed on the brackets, shown in front of machine, with one end against the guide and the staves resting against the feed wheels. The feed wheels are made with four lugs projecting from the outer edge, and as they revolve past the brackets they take up one stave at a time, or four for each revolution, and carry them between the cutter-heads, which equalizes, chamfers and crozes the stave on both ends at the same time. While the staves are passing between the cutter-heads they are

of an inch thick, and is substantial, yet light in weight. It can be adjusted to any size from 8x10 to 12x17 inches by the molder without leaving his bench, and it is so hinged that it can be opened free. The mode of adjustment is simple and as follows: Loosen the thumb nuts, place same over the pattern, allowing as much margin as desired, and the flask is ready for use. In matching drag with cope it makes a perfect adjustment of pins either tight or loose, as the work requires, and when the nuts are tightened the pins do not shift. Simplicity is one of its special features. The claim made for it is that after one trial any boy can work it perfectly.

Anyone who has had to do with foundry practice knows the delay caused by not having a proper size of flask for some particular work, and will readily appreciate the saving in time and labor made possible by the use of this flask.

The J. D. Smith Foundry Supply Co., Cincinnati, Ohio., are the general selling



RICHARDSON'S ADJUSTABLE SNAP FLASK.

held down on the feed wheels by heavy weights connected with levers, thus preventing vibration and insuring smooth work. In this way every stave is exactly the same length, the chamfer the same, and when the staves are set up the heads fit the croze without any cutting.

The iron frame that carries the cutter head arbors can be slotted, when so de-

agents, and will give any further information desired.

HAVE you real estate notes, municipal or county bonds that you want to convert into cash? If it is a Southern note or bond you can advertise it free, four times, in the MANUFACTURERS' RECORD.

## Up Head of Class A

and still snapping our fingers.

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We can show you how to belt up your energy to the ordinary silver dollar so as to bring your whole fortune into profitable activity.

But jokes aside, the very complete line of machinery agencies which we control is the result of ten years of careful select on among the best and most progressive manufacturers' American Machinery.

Do not content yourself with wondering if THE PENNSYLVANIA LIMITED has this or that machine. WRITE TO US

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Boilers, Vertical. Steam Hammers.  
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Drill Presses, from 18 in. to 30 in.  
Planers, with quick return, from 18 in. to 76 in.  
Crank Planers. Hoisting Engines.  
Crank Shapers. Pumping Engines.  
Friction Shapers. Steam Pumps.  
Milling Machines. Feed-Water Heaters.  
Cutting-off Machines. Grinding Machinery.  
Screw Machines. Emery Wheels.  
Bolt Cutters. Chucks and Face Plates.  
Belting and Lacing. Waste by the Bale.  
Wood Mortisers. Wood Tenoners.  
Moulding Machines. Matching Machines.  
&c., &c., &c., &c., &c.

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1 Alligator Shears, 20-in. blade.  
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24x36 Corliss Engine, 300 H. P.  
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80 & 25 Horse High-Speed Electric Light Engines.  
10x12 and 10x16 Slide Valve Engines.  
4 Steel Boilers, 5 ft. x 18 ft.  
1 Fire-Box Iron Boiler, 5 1/2 ft. x 14 ft.  
All 90 H. P. each, first-class Boilers.  
135 Horse Locomotive Boiler.  
1 350-gallon Cameron Pump.  
1 No. 7 Dean Pump.  
Double Circular Saw Mill.  
24x24x5 ft. Planer, &c., &c.

SEND FOR SCHEDULE.

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1 Iron Planer, 16 in. x 16 in. x 3 ft.  
1 Planer, 20x20 in. x 4 ft. and 22x22 in. x 3 ft.  
1 " 24x24 in. x 5 1/2 and 6 ft.  
1 " 30x30 in. x 6 ft.  
1 " 32x32 in. x 10 ft. 42x36 in. x 12 ft.  
1 " 36x36 in. x 10 ft.  
1 " 72x60 in. x 15 ft. and 50x50 in. x 17 ft.  
1 " 30x30 in. x 9 ft., with one head.  
1 " 42x42 in. x 12 ft., with two heads.  
Friction Shapers, 15 in., 22 in., 32 in.  
Crank Shapers, 12, 17, 20, 24 in., ad. stroke.  
1 each Nos. 1, 2, 3, 4 Wire Feed Screw Machines.  
1 each Nos. 3 to 8 Screw Machine. Power Feed.  
1 each 2, 3, 4 and 6 Spindle Gang Drills.  
3 Crank Planers. 12 No. 2 Lincoln Pat. Millers.  
1 each Nos. 31, 32 and 33 Ferracute Presses.  
1 No. 3 Stiles & Parker Geared Press.  
1 No. 2 1/2 in. Fowler Press. 10 Foot and Power  
2 No. 1 Bliss Foot Presses. [Presses.  
12 Punching and Shearing Machines, assorted.  
1 Bolt Cutter, each 1/2 to 1 in. and 3/4 to 1 in.  
1 36 in. Gear Cutter.  
1 each 48, 60 and 72 in. Radial Drill.  
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1 48 in. Gear Cutter. 1 Power Mortising Machine.  
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Planer, planes 72 in. wide, 12 1/2 ft. long, 2 heads, L. W. Pond Machine Co.  
Planer, planes 36 in. wide, 10 ft. long, L. W. Pond.  
Planer, planes 30 in. wide, 8 ft. long, D. W. Pond.  
Planer, planes 30 in. wide, 8 ft. long, Harrington.  
Planer, planes 30 in. wide, 5 ft. long, Cove M. Co.  
Planer, planes 24 in. wide, 6 ft. long, Harris.  
Planer, planes 24 in. wide, 5 ft. long, L. W. Pond.  
1 Planer, 24 in. wide, 4 ft. long, L. W. Pond. New  
1 Planer, 24 in. wide, 5 ft. long. " "  
1 Planer, 24 in. wide, 6 ft. long. " "  
1 Planer, 28 in. wide, 5 ft. long. " "  
1 Planer, 32 in. wide, 10 ft. long. " "  
Gap Engine Lathe, 28 in. swing over shears, 56 in. swing in gap, 26 ft. bed, English make.  
Engine Lathe, 54 in. swing, 21 ft. bed. Putnam.  
Engine Lathe, 24 in. swing, 20 ft. bed with three tool shafting rests. D. W. Pond.  
Engine Lathe, 18 in. swing 6 ft. bed. Sheppard.  
Engine Lathe, 16 in. swing, 8 ft. bed, Wheeler.  
Engine Lathe, 15 in. swing, 8 ft. bed, Porter.  
4 Engine Lathes, 20 in. swing, 8 ft. bed, Ames.  
Shaping Machine, 9 in. stroke, New Haven.  
Upright Drill, 30 in. swing, b. g. & s. f., Hawes.  
Upright Drill, 28 in. swing, Putnam Mach. Co.  
Bolt Cutting Machine, 1 1/2 in., Wm. Sellers & Co.  
Slotting Machine, 1 1/2 in., Schlacke.  
Slotting Machine, 9 in. stroke, New Haven Co.  
Pipe Cutting Machine, 4 in., Morris, Tasker & Co.  
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Two Double Stay Bolt Cutters, Bement.  
1 28 in. Upright Drill, b. g. & s. f., Snyder. New.  
1 36 in. Upright Drill, b. g. & s. f., Snyder. New.  
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1 Engine, upright, 6x7 in. N. Y. Saf. St. Pow. Co.  
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1 Planer, planes 5 ft. 24x24 in.  
1 Engine Lathe, 14 ft. bed, 32 in. swing.  
1 Engine Lathe, 18 ft. bed, 24 in. swing—chuck.  
1 Engine Lathe, 10 feet bed, 25 inch swing.  
1 Engine Lathe, 9 ft. bed, 18 in. swing.  
1 " 6 " 18 " chuck.  
1 20 inch Plain Drilling Machine.  
1 15-in. Crank Shaper.  
1 26-in. Stevens' Pulley Lathe.  
1 9 inch Hewes & Phillips Shaper.  
1 48-in. Vertical Boring Mill.  
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1 Iron Planer, 30x30 in. x 7 1/2 ft., Wm. Sellers & Co.  
1 Iron Planer, 30x30 in. x 7 1/2 ft., Wm. Bishop.  
1 Iron Planer, 24x24 in. x 6 ft., Wm. Bishop.  
1 Iron Planer, 24x22 in. x 5 1/2 ft., Frederic Miles.  
1 Iron Planer, 20x20 in. x 5 ft., Wm. Sellers & Co.  
1 Iron Planer, 16x16 in. x 3 1/2 ft., Frederic Miles.  
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1	12	"	" vertical " new.
1	9	"	" " " " "
1	7	"	" " " " "
1	6	"	" " " " "
1	5	"	" " " " "
1	4	"	" " " " "
1	2	"	" " " " "
1	1	"	" " " " "
1	10	"	" " " " "
1	20	"	" " " " "
1	1 1/2	"	" " " " " second hand.
1	steam pump,	capacity 400	gallons per hour, ordinary speed, second hand.
1	Eclipse steam pump,	4x2 1/2 x 4 in.	new.
3	"	6x3 1/2 in.	"
2	"	8x10 in.	"
2	"	12x10 in.	"
1	"	12 1/2 x 18 in.	"
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## TRADE NOTES.

E. T. BARNUM, of Detroit, Mich., manufacturer of art wire and iron work, reports fall business as excellent. He has made some large contracts lately, among others, iron stairways and shutters for a fine business block in Indiana, and complete iron work for large stables in Norwalk and Bellevue, Ohio, including stall guards, hay racks, oat hangers, stall guttering, etc.

THERE seems to be always a market for bricks. The demand in many places in the South exceeds the supply, and consequently prices afford a wide margin for profit. An opportunity to take an interest in brick works located in North Alabama is presented in our advertising space. The plant is well equipped, and the clay is suitable for a variety of brick. The partner must be experienced and competent to carry on the manufacture of common, pressed and ornamental brick and drain tile. Communications can be sent to S. B. W., care of this paper.

A TREATISE on the construction and use of milling machines has been issued by the Brown & Sharpe Manufacturing Co., of Providence, R. I., makers of machinery and tools. The book, although written primarily for those who are unfamiliar with the use of milling machines, is also of interest to those who are well acquainted with the theory and practice of milling. It will no doubt prove a valuable aid in having such machines well understood, properly cared for and profitably operated. A rather novel classification of cutters is explained, and considerable space is devoted to treating of the proper number of teeth in cutters, the best speeds for mills, etc. Chapters on "indexing," "compound indexing" and "cutting spirals" are almost entirely new matter, and many milling operations are fully described. It contains 162 pages, 94 illustrations and many useful tables. Price by mail—paper, 75 cents; cloth, \$1.60.

THE following letter from the Canton Steam Pump Co. explains itself:

"CANTON, OHIO, November 12, 1891.

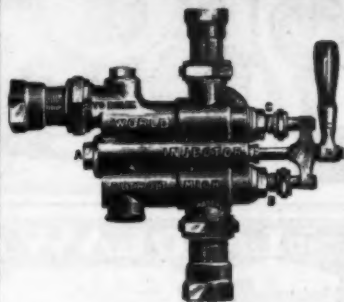
"Editor Manufacturers' Record:

"In order to correct a wrong impression, caused by exaggerated reports through the daily papers of the fire which occurred on Sunday, Nov. 8, by which the warehouse in which we stored our manufactured product, also large proportions of our raw materials, was consumed, we are pleased to say that this misfortune does not cause us to cease operations in the factory for one moment. The stock consumed was telegraphed for immediately, and parts of it began to arrive on the day following. We are receiving orders in increased numbers, and we shall be able to take care of them all. Our business has been exceptionally prosperous the past season, and it gives us great pleasure to correct any wrong impression that may be existing.

"THE CANTON STEAM PUMP CO.  
"CHAS. F. SHAVER, Secty."

THE Engineering Magazine, published in New York, always reaches its readers filled with matter of great interest. The contents of the November number are: "Lessons of the Park Place Disaster," by Edward Atkinson, (illustrated); "An American View of British Federation," by Andrew Carnegie; "Perils of Coal-Mining," by C. J. Norwood, (illustrated); "The World's Fair Buildings," by J. Kendall Freitag, (illustrated); "Is the Limit Reached in Armored War-Ships," by Albert Williams, Jr.; "Silver-Mining Among the Chinese," by John A. Church; "The Manchester Ship Canal," I, by George R. Dunell; "Equipment of Pumping Stations," by George W. Rafter; "Museum Building and Arrangement," by Barr Ferree, (illustrated);

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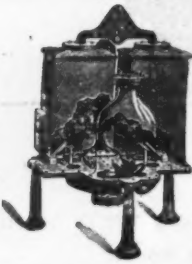
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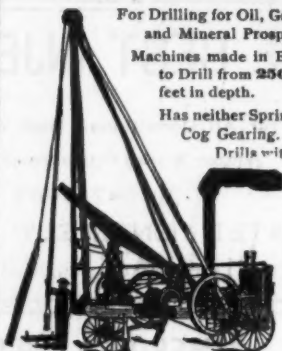
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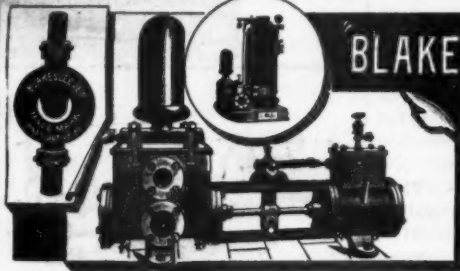


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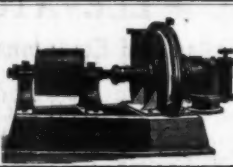
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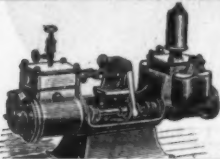
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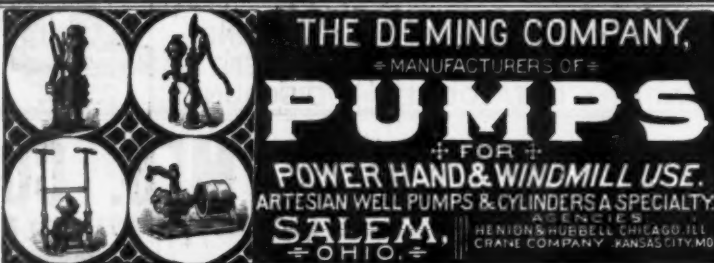
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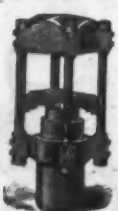
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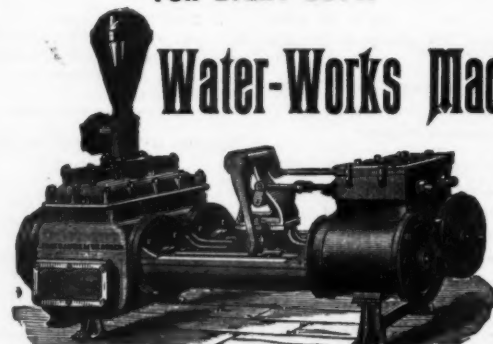
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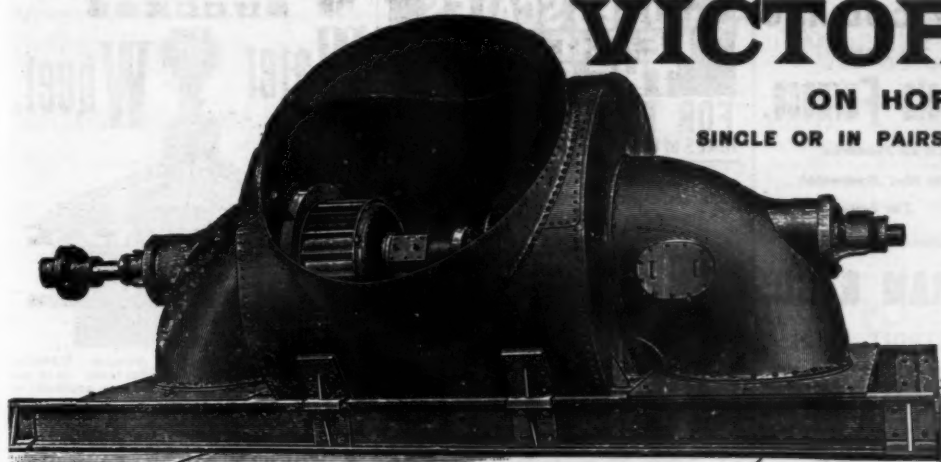


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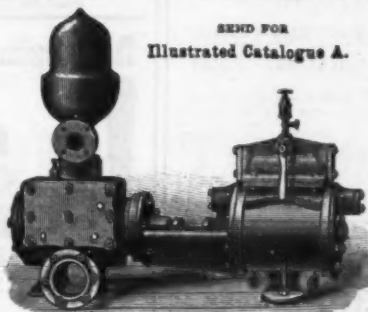
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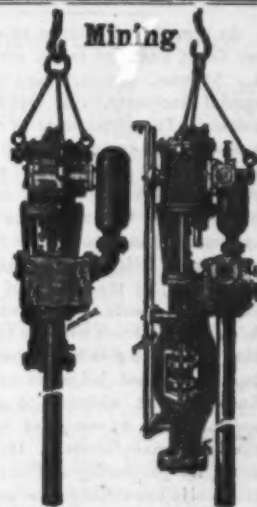
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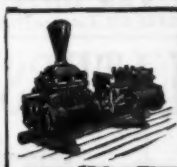
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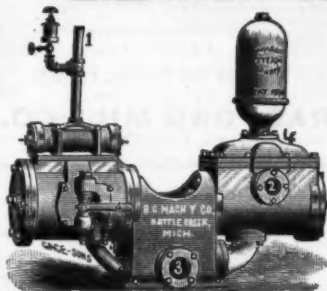
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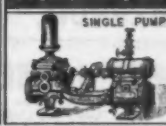
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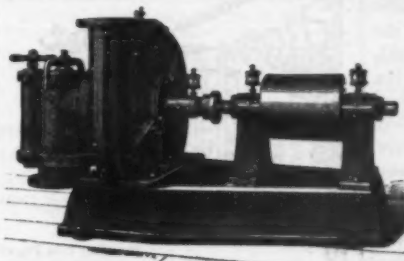
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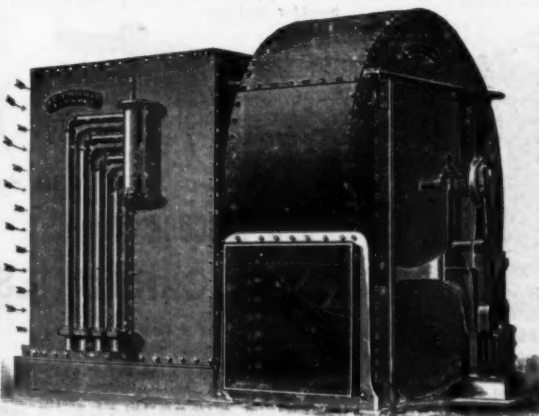
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## TRADE NOTES.

To those engaged in the development of phosphates and to those contemplating such development, the card of James Murray & Son, of Baltimore, to be found in another column, will prove of interest. This concern offers for sale phosphate machinery, including boiler and engine, crusher, etc.

ALEXANDER LAUGHLIN & Co., of Pittsburgh, Pa., engineers and contractors for the erection of regenerative gas furnaces and artificial gas producers, have published an illustrated pamphlet showing a few designs of their furnaces and producers. The designs represent some of the most modern ideas for such plants, and are selected from the great number of original drawings comprising every description of regenerative and reverberatory furnaces on file in the office of this firm.

As a matter of interest to our readers, we direct attention to the card of Arthur L. Stevens, designer and builder of special machinery, to be found in another column. The importance of the aid of a mechanical engineer in the erection of new industrial plants, as well as the extension or improvement of old ones, is obvious to all who fully appreciate the value of systematic and economical arrangement and careful selection of machinery. Mr. Stevens enjoys the benefit of a large and varied experience, during which he has been in close touch with the trade. He is thus enabled to give his patrons the advantage of ripened judgment and practical knowledge, in addition to commanding special prices by reason of long connections with manufacturers. He also acts as agent for purchasing machinery and supplies. He has already done some business in the South, and is a member of the Franklin Institute possessing the best of references. His address is 11 South Ninth street, Philadelphia, Pa.

THE American Ore Machinery Co., No. 1 Broadway, New York, is meeting with flattering success in finding a market for its ore and rock-grinding machinery in the South. As a result of this it has become necessary to arrange for permanent Southern representation. A large number of the phosphate manufacturers located in different Southern States have met with Mr. H. B. Eldridge, who has been the Southern traveling representative of the American Ore Machinery Co. since its incorporation, who is also a director of the company. Next week Mr. Eldridge will, with his family, make his permanent residence in Charleston, S. C. Communications can be addressed to him at the general postoffice in that city, and will receive prompt attention. The latest sales of Nord pulverizers have been to the Edisto Phosphate Co. and Chicora Fertilizer Co., of Charleston; the Zell Guano Co., of Baltimore; Caraleigh Phosphate Co., Raleigh, N. C.; Little Bros., Jacksonville, Fla., and the Cunningham gold mine, Dolores, New Mexico.

A PATENT has recently been issued to Engineer Mat M. Dodd, of the Seaboard & Roanoke Railroad, for an improved automatic governor for air brakes. This invention has been in use several months on trains of the Seaboard Air Line and the Atlantic Coast Line, and, after every possible test, has been pronounced a very valuable improvement.

WINTER TOURIST RATES.—The Missouri Pacific Railway and Iron Mountain Route have placed on sale winter tourist tickets to points in Texas, Mexico, Arizona and California at greatly reduced rates. Stop overs will be allowed in the States of Arkansas and Texas. For tickets and further information address company's agents, O. H. C. Townsend, general passenger agent, St. Louis, Mo.

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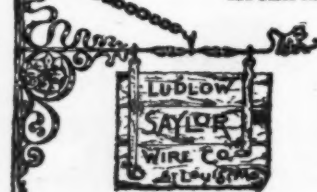
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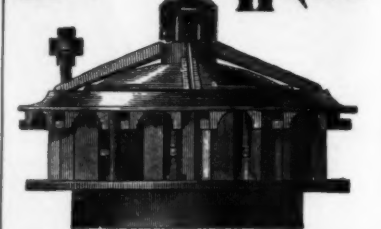
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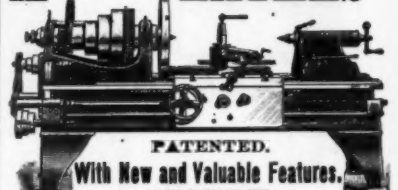
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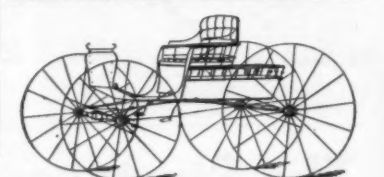
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## Southern Real Estate Directory.

For the convenience of the many readers of the MANUFACTURERS' RECORD it has been deemed advisable to collect under this head a complete and reliable list of the leading Realty Agencies of the Southern States. The value of such a list for the purpose of Ready Reference will immediately become apparent to all who are interested in the growth of this section.

## ALABAMA.

BESSEMER—Chas. F. Hard & Co., Real Estate and General Commission, Room 1, Charleston Block.

## GEORGIA.

AUGUSTA—Clarence E. Clark, Real Estate, Stocks and Bonds. Loans Negotiated.  
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## KENTUCKY.

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## NORTH CAROLINA.

CHARLOTTE—Brem & Co., 100 City Lots, Farm Lands and Water Powers.  
MARION—W. H. Roberts & Co., Real Estate, banking and insurance.  
N.WILKESBORO—Am. House M. & T. Land Co., Ath. Cap. \$5,000,000 Shrs. \$10. Town bldg.  
OLD FORT—O. H. Blocker, Real Estate, Timber and Mineral Lands.  
OXFORD—Rice & Lamsler, Real Estate, Stocks and Insurance.  
STATESVILLE—W. G. Lewis, Real Estate Agent. Correspondence Solicited.  
STATESVILLE—P. C. Carlton, Real Estate, Timber and Mineral Lands.  
WINSTON-SALEM—J. E. Catlin, Real Estate and Stocks.  
WINSTON-SALEM—P. C. Humphrey, Real Estate, Insurance, Stocks and Bonds.

## SOUTH CAROLINA.

COLUMBIA—Geo. W. Parker & Co., Real Estate and Insurance. Loans Negotiated.  
COLUMBIA—Sale & Simmons, Real Estate, Stocks and Bonds. Loans negotiated.  
GREENVILLE—Browning & Co., Real Estate, No. 60 Court Square.  
SPARTANBURG—Spartanburg Investment Association, Real Estate & Loans.

## VIRGINIA.

BASIC CITY—A. B. Carter, Real Estate and Insurance Agent. Correspondence solicited.  
BERRYVILLE—S. J. C. Moore & Co., Real Estate Agents.  
BUENA VISTA—Blackburn, Davis & McGilvray, Real Estate Stocks and Insurance.  
BUENA VISTA—A. P. Moore & Co., Real Estate and Stock Brokers.  
BUENA VISTA—Gayer, McClure & Co., Real Estate, Stocks and Bonds. Write for pamphlet "Buena Vista Securities."  
BUENA VISTA—Buchanan & Anderson, Real Estate Agents and Stock Brokers.  
BUENA VISTA—C. H. Jordan & Co., Real Estate, Stocks and Insurance.  
CHARLOTTESVILLE—J. C. McKennie & Co., Real Estate and Insurance Brokers.  
CHARLOTTESVILLE—L. D. Aylett & Co., Real Estate, Stocks and Bonds. Correspondence solicited.  
CHARLOTTESVILLE—Jas. W. Dolin, Real Estate. Send for Dolin's Land Advertiser.  
ELKTON—Borum & Fringie, Real Estate, Stock and Insurance Agents.  
FARMVILLE—Herndon, Hasell & Co., R. E. and Insurance. Members Va. R. E. Ex.  
FORT DEFENSE—McQue, Parkins & Co., Real Estate. Correspondence solicited.  
FRONT ROYAL—Dorsey, Campbell & Co., Real Estate and Stocks, No. 1 Court Green.  
LURAY—Wright, Leyburn & Co., Real Estate, Stock & Ins. Correspondence solicited.  
NEWPORT NEWS—Robinson & Miller, Real Estate Agents. Correspondence solicited.  
NEWPORT NEWS—Braxton, Chandler & Marye, Civil Engineering, Real Estate and Insurance, Washington Ave. & 30th St.  
NEWPORT NEWS—C. B. Nelms & Bro., Real Estate and Insurance Agents. Representing \$150,000,000.  
NEWPORT NEWS—W. E. Barrett & Co., Real Estate & Ins. Correspondence solicited.  
NORFOLK—J. M. Marshall & Co., Real Estate Brokers, 113 Main Street.  
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## SECOND-HAND STEAM PLANT,

All in good condition, divided to suit.

One Corliss Engine, 26x48-in., 300 H. P.  
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Three Tubular Boilers, 72 in. diam. x 17 ft. long.  
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One-fourth cash, and the residue in three equal instalments at 6, 12 and 18 months. The purchaser will be required to execute and deliver his negotiable notes satisfactorily endorsed, bearing interest from day of sale, and also to pledge the real estate, machinery, franchise and good will for the deferred payments, either by taking a conveyance and giving a deed of trust, or of leaving the title outstanding as may be arranged at the option of the vendor.  
The sale will be peremptory and without reserve. By order of the stockholders,  
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Plant consists of one acre of land, foundry buildings and machine shops, cupola, engines, and full equipment of machinery. Located in a growing town; good railroad facilities. Can be bought at a bargain. For terms and information, address

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One 65 Horse-Power Westinghouse Engine. One 85 Horse-Power Boiler, Piping, and everything to make Steam Plant Complete. This Plant has been used to run an Electric Light Plant of two 50 Arc Light Dynamos, and is only sold because plant has been greatly enlarged.

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BRISTOL GAS, ELECTRIC LIGHT & POWER CO.  
BRISTOL, TENN.

## LARGE PLACER GOLD MINE

## FOR SALE.

Situated in Burke County, North Carolina, U. S. A. For printed report on mine apply to

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## A RARE BARGAIN.

The Finest Water Power (3,000 H. P.)  
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Natural Dam. Large Level Yard and Good Improvements. Splendid Country. No Malaria. Will sell whole or part or lease power. Address  
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Special attention given Collections, Commercial and Corporation Law. Attorney for Lorry Banking Co., Atlanta, and Manufacturers' Record, Baltimore.

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Large tracts of mineral and timber lands for sale throughout the South. Correspondence solicited.

## BRISTOL'S

## Recording Pressure Gauge

Makes a continuous record day and night of Steam, Water, Gas or Air Pressure. It shows at a glance whether the boiler has received the attention upon which largely depends its

## SAFETY AND ECONOMY.

Simple. Reliable and Cheap. Hundreds in use. Will send on trial to responsible parties. Address

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237 Bond Street, Cleveland, Ohio.  
Selling Agents for Northern Ohio.

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UPRIGHT,  
RADIAL,  
Universal Radial,  
BOILER MAKERS'

Drills

BORING,  
TURNING

MILLS.

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## Blacksmith's Drills.



Fig. 739, No. 1 1/2.

Has 1 in. Steel Spindle, bored for 3/4 in. Drill Shanks.

Extension Crank, 13 in. Swing.

DRILLS 1/2 IN.

55 POUNDS, \$6.00.

Nos. 2 and 3 are Double Back Geared, Self-Feed.

\$10 and \$14.

TRY A SAMPLE.

The Silver Mfg. Co.

SALEM, OHIO.

FRED. SLOSS at al, ex parte.

## VALUABLE

## Manufacturing Property

## FOR SALE.

On Saturday, the 26th day of November, 1891, under the order of the Chancery Court of Giles County, Tenn., will be sold on the premises, that valuable manufacturing property known as

## VALE MILLS,

Situated in Giles County, Tenn., about 3 1/2 miles west of Pulaski, on which is situated a GRIST MILL, COTTON FACTORY, with all machinery necessary for the manufacture of Thread, Rope, Twine and Carpet Warp, with both ample water and steam-power, and all necessary buildings for operatives.

Sold free from redemption on a credit of one, two and three years, with interest from day of sale. Notes, with good personal security required from the purchaser, with lien retained upon the property. Possession January 1, 1892.

For further particulars apply either in person or by letter to W. B. or L. N. SMITHSON, or the undersigned at Pulaski, Tenn.

J. B. STACY,

Commissioner.

Sept. 23, 1891.

To Those Looking For

## Manufacturing Sites.

The most desirable locations for the manufacture of wagons, stoves, horse and mule shoes, boiler plate, sheet iron, agricultural implements, furniture, or for foundries, machine shops, rolling mills, muck bar mills, nail works, glass works, cotton or woollen mills, pipe foundries, wrought iron pipe works, tanneries, or other manufacturing establishments, are to be found in Virginia, along the line of the Norfolk & Western Railroad, from Norfolk, Va., or Hagerstown, Md., to Bristol, Tenn., and upon its Clinch Valley, Cripple Creek and Ohio extensions. Hardwood in every variety; pig iron from the furnaces at Lynchburg (2), Roanoke (3), Pulaski (1 in operation and 1 under construction), Ivanhoe (1), Radford (1 now under construction), Salem (1), Graham (1), Max Meadows and Bristol (1 at each point now under construction), Shenandoah (1), Buena Vista (1); bar iron from the rolling mills at Richmond, Shenandoah (now under construction), Lynchburg, Roanoke and Richlands (now under construction); coke and semi-bituminous coal from the Pocahontas coal and coke field; superior gas coals from mines on the Clinch Valley Extension; glass sand near Tazewell and Buena Vista; Cotton from the markets of the Southern States, and wool from all the Western and Southwestern States and Territories, at advantageous freight rates. Favorable freight rates made upon raw materials to all factories established upon its line, as well as to points in the United States and Territories, upon the manufactured articles.

Those seeking new fields for manufacturing establishments should not fail to investigate the wonderful development of iron, coal and coke industries that has been made with the past five years along the line of the Norfolk & Western Railroad, and the advantages offered by the State of Virginia in the supply of raw materials, by the Norfolk & Western Railroad Company in the matter of freight facilities and rates upon raw materials, and reaching home, far distant and foreign markets, and by the cities and towns along its line in the way of advantageous sites at moderate cost. Many of the cities and towns exempt manufacturing establishments from taxation for a series of years.

For further information as to freight rates and sources of supply of raw materials, maps, pamphlets, etc., apply to

A. POPE, General Freight Agent,  
or to CHAS. G. EDDY, Vice-President,  
Roanoke, Va.

# SAVERNAKE, *Rockbridge County,* VIRGINIA.

FOR 1891 Offers to the Investor a Most Desirable Opportunity for Profit.

## LOTS for Business and Residence Purposes

AT PRICES TO SUIT THE TIMES.

**S**AVERNAKE adjoins Buena Vista on the Southwest; fronts on Shenandoah Valley Railroad and on James River Division of the Chesapeake & Ohio Railway. High Grade Manganese and Iron Ores to steel and iron trades. Safety and profit to investors. Healthy and picturesque homes at moderate prices to lot buyers, notwithstanding the late depression due to monetary stringency and unusually severe weather.

The industries secured for Savernake have all been retained, and will proceed to build as soon as the weather permits.

### THE SAVERNAKE PRESSED BRICK COMPANY.

This Company, formed to manufacture from the superior clay deposits found at Savernake, the highest grade pressed, front and ornamental brick, is now erecting the pressed brick works,

CAPACITY 40,000 BRICK DAILY.

The capital of the Company is \$30,000, full paid. The grade of brick to be made here sells now for \$30 per 1000 at Buena Vista, and allows a very fair margin of profit, insuring large dividends to shareholders.

A limited amount of stock remains unsold.

Prospectus may be had and all information obtained by application at office of Savernake Pressed Brick Co., Savernake, Va.

It is expected that the works will be completed and in operation in thirty days.

### THE SAVERNAKE INVESTMENT CO.

The Savernake Investment Company has been organized under a very liberal charter, granted by the Circuit Court of Rockbridge county, Va. It is empowered to do a general

#### CONSTRUCTION AND IMPROVEMENT BUSINESS,

to buy, sell, rent or lease real estate, to remove encumbrances from the same, to accumulate funds for investment, loans, manufacturing, banking commercial or other purposes, as may seem to the Directors most profitable.

The Company has purchased seventy-five residence lots and twenty-five business lots in the town of Savernake for \$35,000 of paid-up stock

in the Investment Company. The present market value of the above lots is \$62,500, thus leaving \$27,500 over and above the amount paid for the lots as a profit, belonging to the stockholders.

It is proposed to make the minimum stock of the Company \$70,000, to be divided into shares of \$50 each; 700 shares will be issued to the Company in full payment for the 100 lots purchased, and the remaining 700 shares (\$35,000) will be placed on the market on the following

#### TERMS:

Ten per cent. at the time of subscription,	\$ 5 00
Ten per cent. on call of the Directors,	5 00
Ten per cent. every thirty days thereafter,	40 00
Par value,	\$50 00

The \$35,000 realized from the sale of the stock will be used in building upon and improving the lots purchased, or for other purposes named in the charter, as may be deemed most profitable by the Board of Directors.

ATTENTION is called to the fact that no Building or Investment Company yet organized at any of the new towns of Virginia has failed to realize large profits.

THE VALLEY INVESTMENT COMPANY, of Buena Vista, organized July, 1890, capital \$10,000, on October 1st, with a paid-up capital of \$4,000, showed net earnings \$6,000.

THE SOUTHWEST VIRGINIA INVESTMENT COMPANY, composed of Philadelphia capitalists, organized about two months since, with a capital of \$100,000, now shows profit of \$33,000.

THE HOME INVESTMENT COMPANY, of Buena Vista, commenced business about September 1st, 1890, with \$3,000 paid in, and on the 15th of October last, reported as actual undivided profits \$1,710, and an estimated profit of \$23,000, representing the difference between the cost of their property and the market value.

THE LEXINGTON INVESTMENT COMPANY commenced operations at Buena Vista about twelve months since, with a proposed capital of \$30,000. Paid \$10,750 for 50 lots; after collecting 50 per cent., declared the stock paid up, and could realize \$420 per share if the property were placed on the market.

When it is considered as a basis for the subscription of \$35,000 to the capital stock of the Savernake Investment Company that its 100 lots are paid for in full and represent a positive value of \$27,500 more than the amount paid for them, it must readily suggest to any one the very desirable character of this stock. Under the charter the following are the officers of the company for the first year:

#### OFFICERS:

PRESIDENT, J. HOWARD WAYT, Staunton, Va.  
SECRETARY AND TREASURER, J. E. B. STUART, Buena Vista, Va.

VICE-PRESIDENT, THOMAS DUNLAP, Savernake, Va.  
MANAGER, J. M. HENKLE, Buena Vista, Va.

#### DIRECTORS:

J. HOWARD WAYT, Staunton, Va. THOMAS DUNLAP, Savernake, Va. W. H. H. LYNN, Staunton, Va. J. M. HENKLE, Buena Vista, Va.  
SAMUEL SADDINGTON, London, England. STEVENS M. TAYLOR, Lexington, Va. J. E. B. STUART, Buena Vista, Va.

Subscriptions may be sent to and all information had of J. E. B. STUART, Secretary and Treasurer, Buena Vista, Va.



# Capitalists Desiring Prudent Investments

In Southern Manufacturing Enterprises, conducted by experienced specialists in works with an established trade for years and proposing to remove to

## SAVERNAKE

with the coming spring, can address the management as below.

### THE LINES OF MANUFACTURES PROPOSED, ARE:

#### *Steel Ingots.*

Under one of the new direct processes, now commercially established, affording large profits and worthy of closest investigation.

#### *Agricultural Steel Forgings.*

Including Spring Steels and Mining Tools, Picks, Mattocks, &c., &c.

#### *Locks, Knobs and Builders' Hardware.*

High-grade goods in real and imitation Bronze, Silver and Nickel-plated goods, &c., with established reputation and extensive trade. A most desirable opportunity.

#### *Tin and Tin-Plate Co.*

With advantages believed to be unsurpassed by those of any other company formed for this purpose, viz:

Ownership of valuable Tin Ore lands of demonstrated value in the Blue Ridge Tin field of Virginia.

Promotion of Steel and Steel-Plate for Tinning on the spot from ores controlled by the Company, at minimum of cost.

Management of various branches by specialists of experience in Tin mining, dressing and smelting; in steel metallurgy; in Tin-Plate making and marketing.

Management of finance by capitalists of experience and position in the financial world.

Control by ownership of the best, and most generally used abroad, Tinning process—patented—and of various other late and improved devices for the most economical production of Tin Plate.

Demonstrated and verified cost and profit sheets will be furnished principals meaning business.

#### *Steam Engines, Boilers,*

Complete Power Plants, Iron Bridges and General Machinery Works, established 1840, trade general throughout United States. Management of first respectability. Investment most desirable.

#### *Hydraulic Cement Works.*

Deposit large, running through 1,200 acres; quality stated to be same as James River cement. Location, within half a mile of two parallel railroads. Demand strong. A most profitable industry.

#### *Fire-Brick Works.*

Clay in large supply, near railroad. Has been tested and pronounced first-class. Every facility for manufacture at large profits.

All or any of the above offer safe and desirable investment for capital on business principles, at bed-rock prices, and with no "promoter's funds."

The owners of these works, with the exception of two—the Tin-Plate Works and the Hydraulic Cement Works, which are now—have concluded to

remove them to Savernake after examination of the locality, the raw material the advantages over present site.

All plants are at expert appraised value; trade shown and capital invested demonstrated.

Capitalization is, in every case, upon these data, and necessary additions for removal and extension, and is entirely "without water."

#### *Northern Investors*

In Town Mortgages have here an opportunity to obtain the superior advantages and profits of Southern Manufacturing Enterprises, combined with experience, skill and established trade.

The establishment of Savernake as an

#### *Industrial Town*

requires capital upon a large scale, and from various sources. Experience teaches that investors are guided by and select from, those opportunities offered in and by the journals of much established repute and widest circulation in their specialties.

#### *The Manufacturers' Record*

Has been selected because of its thorough knowledge of Southern investments, its unparalleled success in attracting attention to honest opportunities for Southern enterprise, and because in a largely extended advertising more direct results and more business has been received from it than all other advertising mediums used.

The above enterprises are all ready to proceed at once to building at Savernake. All offer legitimate profit, and are offered only subject to strictest investigation, and on this basis only.

Such a group of industries will demand homes for a large population and for those to supply their necessities and luxuries.

#### *Savernake and Extensions.*

Will offer for the season of 1891 some 2,000 desirable BUSINESS AND RESIDENCE LOTS. Prices of these will be in no case speculative. A marked reduction and favorable terms to those who will contract to build their own homes on purchase of lot. A liberal and equitable concession for cash purchases, and to building investment and manufacturing companies.

#### *Foreign Investors*

May address for information and particulars THE LOCH LAIRD ESTATE & MINERAL CO., LIMITED, OFFICE, 39 LIME STREET, LONDON, E. C.

#### *American Investors*

Will apply to THOMAS DUNLAP, MANAGING DIRECTOR, SAVERNAKE, VA. POSTOFFICE ADDRESS, TRIFORD, ROCKBRIDGE CO., VA.

Railroad Station for both Shenandoah Valley Railroad and Chesapeake & Ohio Railroad, Loch Laird Station, Va. All C. & O. Railroad Trains stop at Savernake.



3 PATTERNS MOLD MACHINES,  
2 SIZES OF DIE MACHINES,  
PUG MILLS, RE-PRESSES,  
STONE-EXTRACTING (LAY) CRUSHERS,  
ELEVATORS, BARROWS, TRUCKS,  
... ENGINES AND BOILERS, ...  
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15,000, 25,000, 50,000 per day Capacity.

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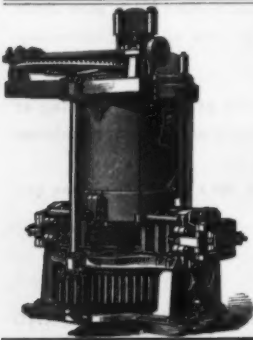
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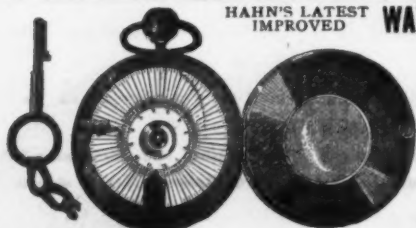
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WATCHMAN'S TIME DETECTOR.

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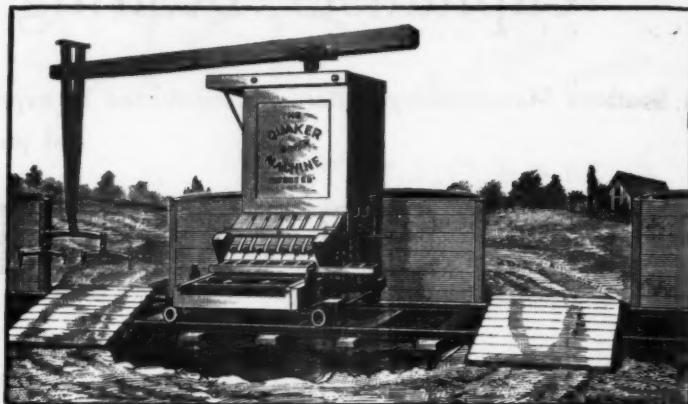
This Clock is adapted for 6 or 12 Stations  
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the old style Time Detectors, which mark  
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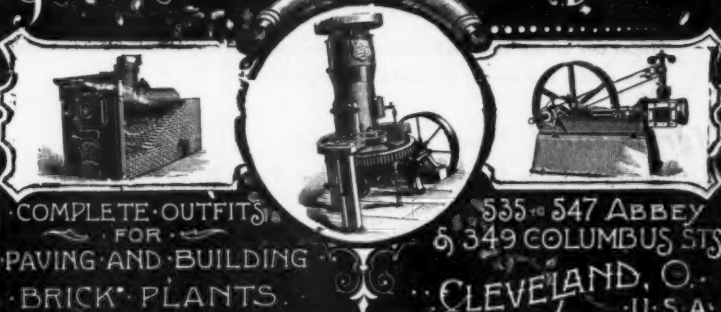
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Send for Illustrated Catalogue. Correspondence Solicited.

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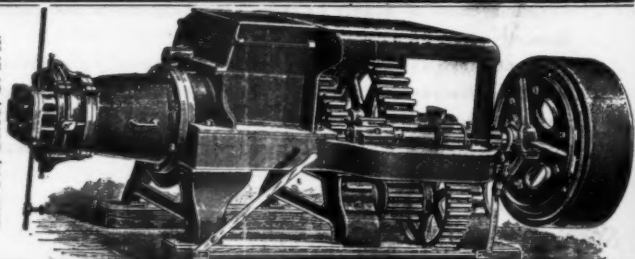


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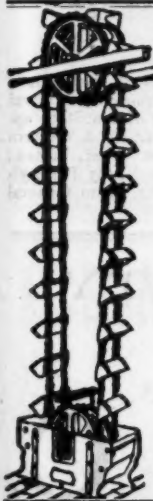
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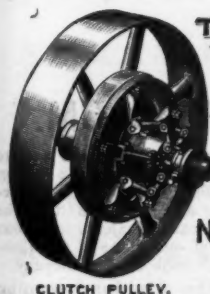
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Patent Punches and Tools for Manufacturing Iron Wheels. Famous Roller-Power Welding Machine for Welding Tires and all Special Work.

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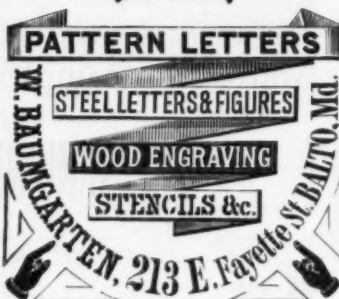
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# BESSEMER CITY, N. C.

Is the name of this New Town. It is located on the Piedmont Air Line, 28 miles west of Charlotte, 6 miles north of King's Mountain, and near a station formerly known as All Healing Springs.

## The Bessemer City Mining & Manufacturing Co.

Has the following officers, whose business standing is the strongest possible indorsement of the validity of the enterprise:

President, EDWIN MICKLEY, of the Thomas Iron Co., of Pennsylvania and Alabama.

Vice-President, JULIAN S. CARR, manager and principal stockholder of the Blackwell Tobacco Factory, Durham, N. C.

Secretary and Treasurer, J. A. SMITH, tobacco manufacturer and mineral expert, formerly of Virginia.

The Company owns over 3,000 acres of Mineral, Timber and Townsite Property, which is being substantially and rapidly developed. Besides gold-bearing quartz, which can be mined at a profit, a remarkable deposit of glass sand, a mountain of whetstone rock and the best of building granite, there are on the property ten iron mines, the ores of which all run from 54 to 68 per cent. iron, have less than .05 per cent. of phosphorus, and are free from sulphur, titania, copper and arsenic.

These facts are ascertained not by analyses of handfuls of selected specimens, but are furnace returns on car-loads and 500-ton lots.

The most superficial investigator will understand what it means to have real Bessemer ores in unlimited quantities on the line of one of the great railroads of the country and under the management of responsible, practical and energetic business men.

It means that there is a new iron and steel manufacturing city permanently on the map.

It means that a town of 5,000 to 10,000 people will be there in less than ten years.

It means that the capital stock and town lots of the Bessemer City Mining & Manufacturing Co. are going to prove an uncommonly good investment.

## NOT A MERE TOWN LOT BOOM.

And more especially is this certain from the fact that this scheme is not a mere town lot boom. The Company has already expended more than a quarter of a million of dollars on the property, and besides work on streets, buildings and such improvements, are putting in the best mining machinery; are sinking new shafts, and from the old ones are regularly shipping ores North at a good profit. A careful calculation shows that enough can be earned by mining and shipping the ores of one alone of the Company's mines to pay a handsome dividend on the entire capital stock of the Company.

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The capital stock of the Company is \$650,000 only. Half of this is offered for sale and will be declared fully paid and non-assessable when 50 cents on the dollar has been paid. The proceeds from this sale of this stock will be invested in industries, a bank, etc., on the Company's property, the management subscribing for half of such stock to the amount of \$325,000.

Mr. John H. Inman, of New York, president of the Richmond & Danville Railroad System, has entered into a contract to take 20 per cent. of the capital stock of any and all manufacturing enterprises (including a furnace and steel plant it is the intention to erect) which shall be located in Bessemer City during the next three years.

In order to expedite the development of the townsite, as well as enhance the value of the remaining property, alternate lots will be deeded to purchasers of fully paid shares of stock.

\$500 to \$1,000 a week is now paid out to miners, carpenters, mechanics and laborers at work on the Company's property. Isn't that a pretty fair nucleus to begin a town with?

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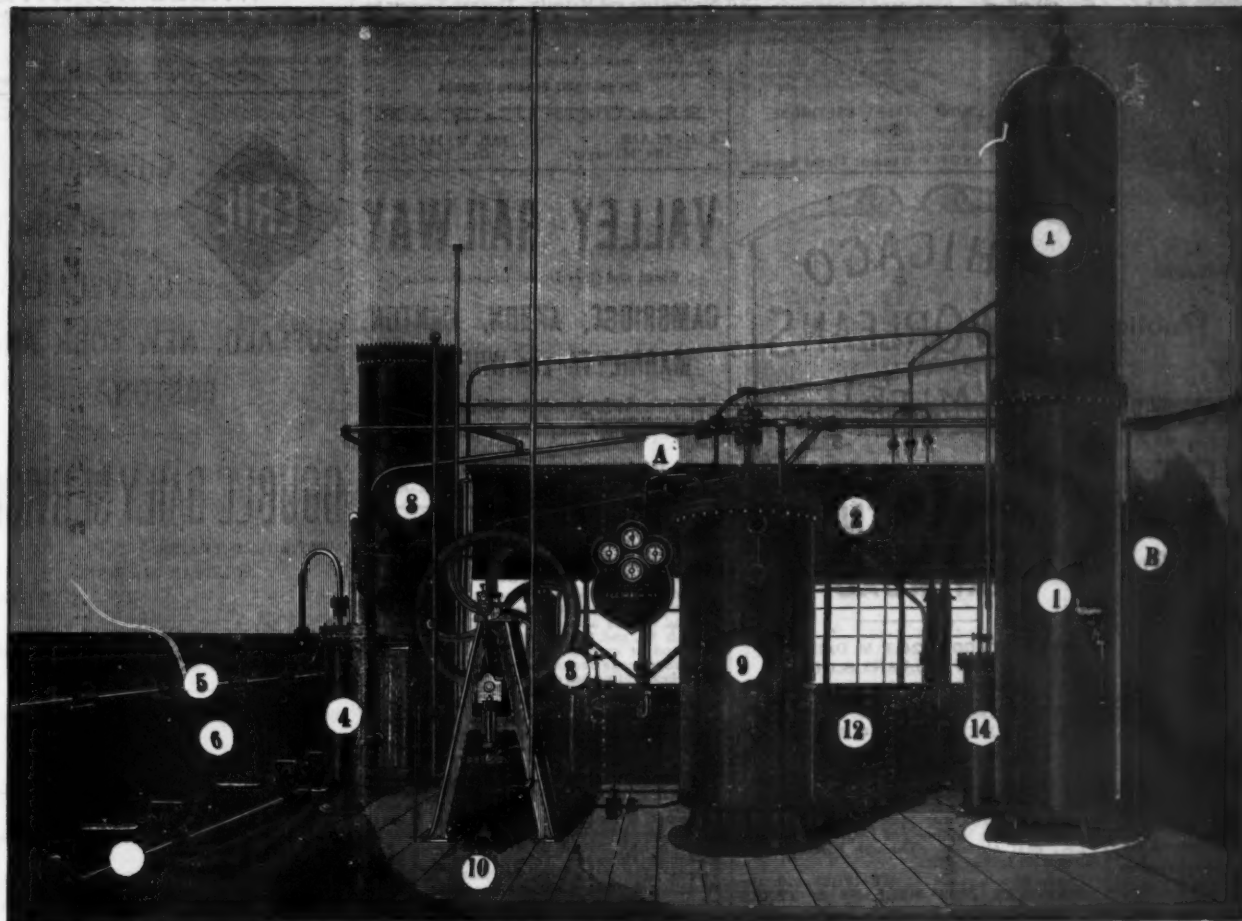
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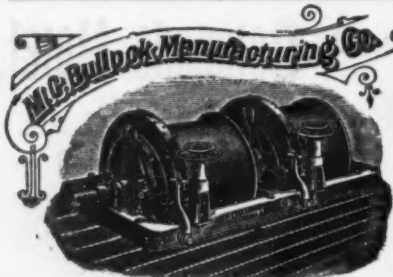
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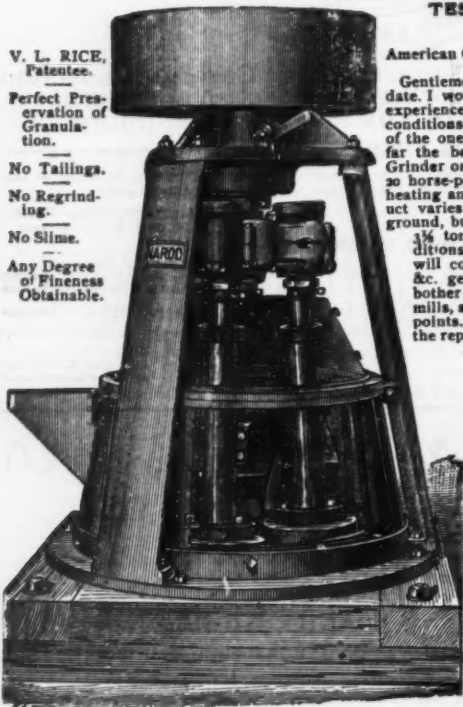
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American Ore Machinery Co.,  
No. 1 Broadway, New York.

Gentlemen—In answer to your favor of recent date, I would say that after nearly six months' experience with the "Narod Mill," under varying conditions, I have never regretted the purchase of the one we have. I think the "Narod" is by far the best and most economical Phosphate Grinder on the market. The Mill does not take 20 horse-power to drive it, runs smooth without heating and has never broken down. The product varies a little as to the kind of Phosphate ground, but I have not known it to do less than 1/4 tons per hour; under favorable conditions the mill grinds 4 tons per hour and will continue indefinitely. Pieces of iron, &c. getting in with crude material do not bother it, as is the case with most all other mills, and this I consider one of its strongest points. I think \$100 would more than cover the repairs for a year. Yours truly,  
C. E. BORDEN,  
Supt. Navassa Guano Co.

BALTIMORE, July 18, 1891.

Gentlemen—In answer to your favor of the 16th, would say we are still running the Narod Mill. It is now over three months since we first started it, and the longer it runs the better we are pleased. We believe it to be decidedly the best Mill in use for reducing Phosphate Rock, Ores, &c. Any man of ordinary intelligence can learn to run the Mill in a short time.

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Maryland Fertilizer & Mfg. Co.

Fineness regulated by size mesh of screen in mill.  
Capacity—Hard Quartz, 3 1/4 to 3; Phosphates, Cements, etc., 3 1/4 to 4 tons per hour.

Only 15 to 20 horse-power required. Weight of each mill 5,000 pounds. The heavier parts can be made suitable for mountain use.

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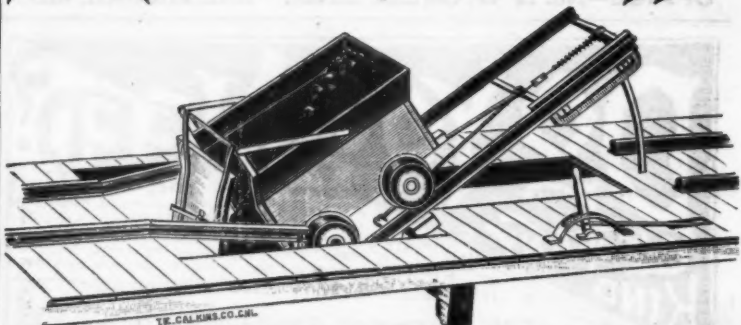
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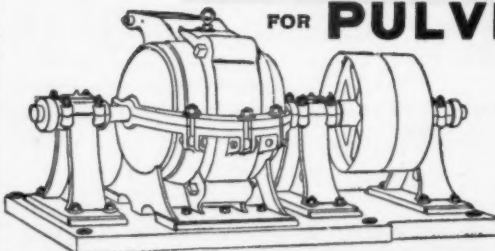
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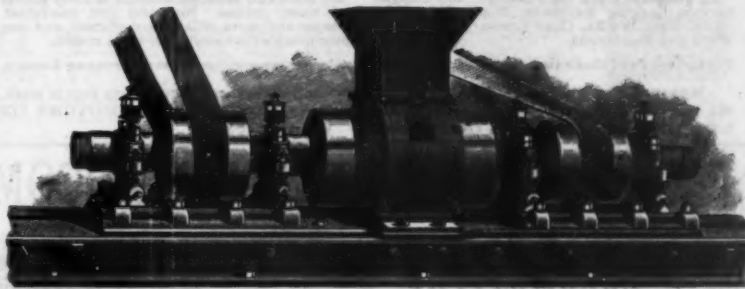
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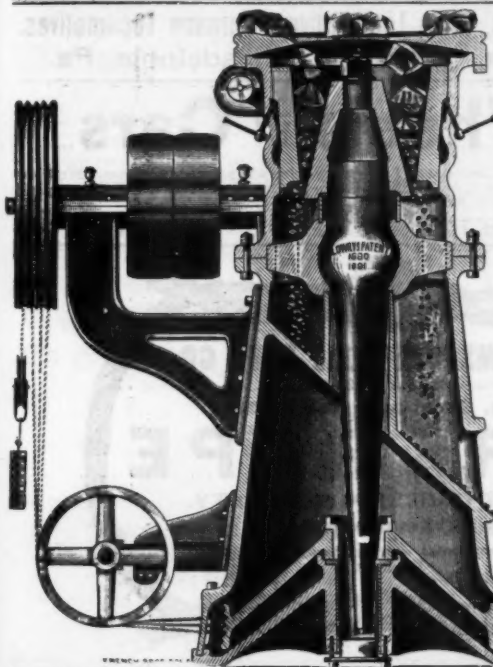
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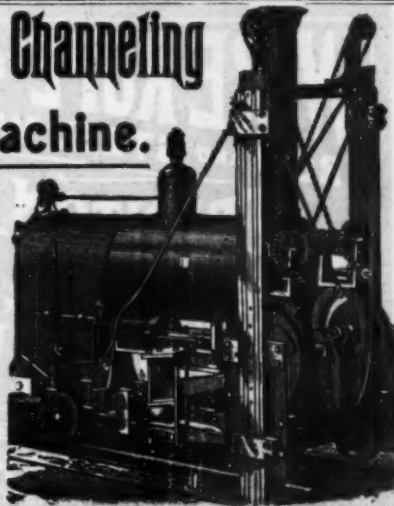
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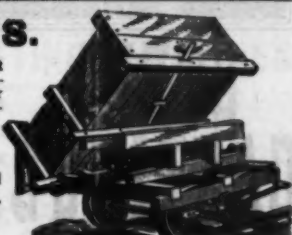
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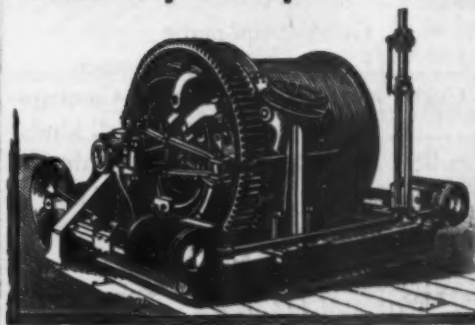
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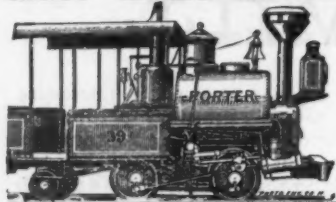
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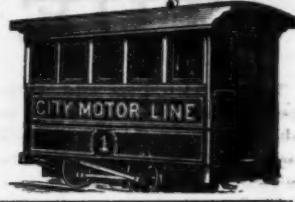
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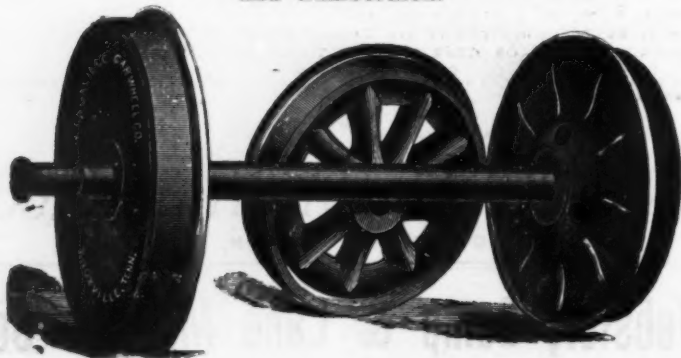
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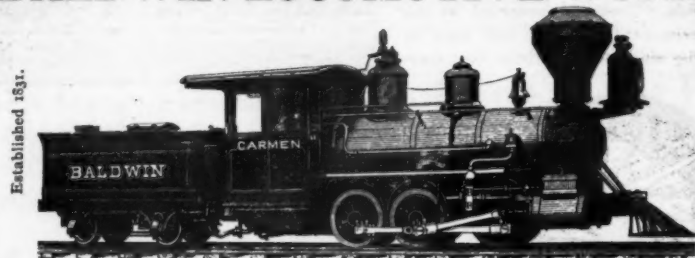
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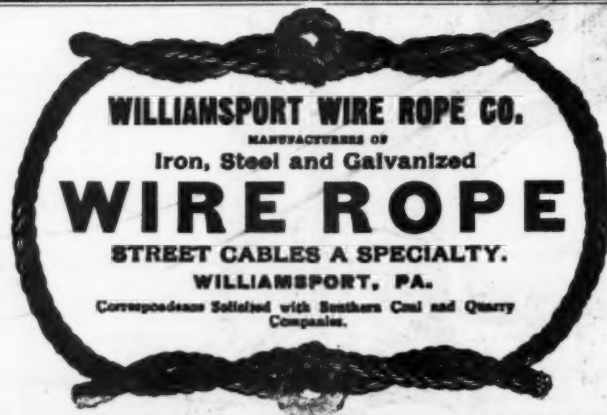
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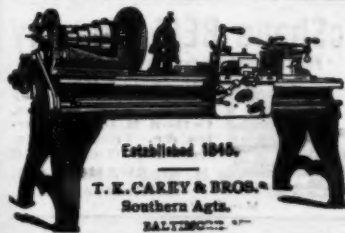
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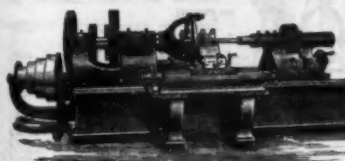
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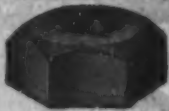
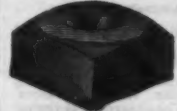
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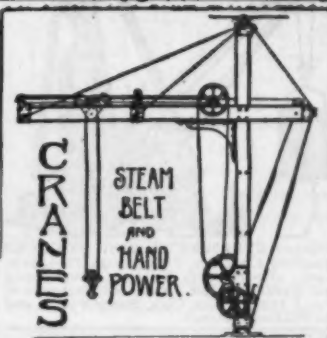
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P. R. O'CRISTINATOR, Supt.  
All Tickets will be redeemed at the office.

Consoled by the thought that the time lost was not his—he works by the day on a job in the immediate neighborhood—the gentleman slowly removes his eye and retires, with the fixed determination of being here again next week. Not that he cares an atom to know what is to be shown next week on this spot, but simply does not intend to have his curiosity excited for nothing.

AS A MATTER OF FACT  
VERY FEW ARE SATISFIED WHEN  
THEIR CURIOSITY IS NOT.

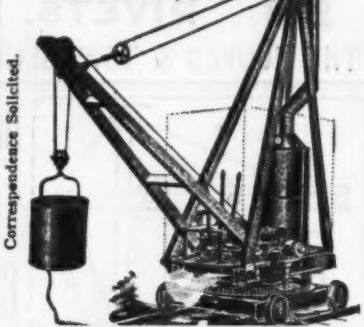


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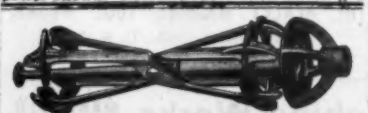
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Specially designed  
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Is the best in the market. Why? Because the  
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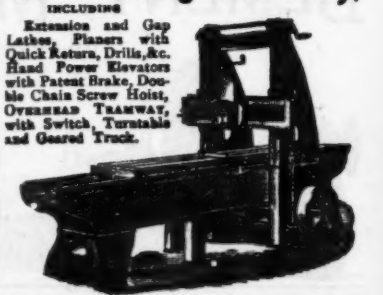
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GENTS—We started mill July 7th. The 12 pair 6x18 rolls you furnished us worked perfectly. They are so easy to adjust, so simple to handle, feed so regularly, grind so nicely and even and work so smoothly on the whole, that we have no hesitancy in stating that we cannot see how they can have a superior, if equal. Aside from their perfect work, they are models of beauty and finish, and a decided ornament to any mill. We enclose clippings from papers. We are, with best wishes,  
Very truly yours,  
BAUER & BUHRER.

For full particulars regarding the BEST FLOUR OR CORN MILL MACHINERY, address

## The Case Manufacturing Company, Columbus, Ohio.

### IRON MARKETS.

CINCINNATI, November 14, 1891.

The week has been a quiet one in all branches of the iron trade. The Boston Bank failure, with the accompanying run of bear talk, has had the effect to depress all markets. In addition to this, most buyers of iron wish to restrict purchases as much as possible until the annual stock-taking at the end of the year. It is not expected, therefore, that there will be much activity in pig iron until the new year begins.

There has been some increase of stocks at the furnaces, owing to the lack of cars for shipping. This annual recurring evil in the South is greater than ever this year, owing to the run-down condition of rolling stock of most of the railroad companies. Nearly all Southern furnaces have orders largely in excess of stock on hand, and could quickly clean up their yards if transportation was provided.

There is also some accumulation of stock in Mahoning and Shenango valleys, and furnaces there are accepting lower prices for Bessemer and foundry irons than they have been willing to take for a long time. A good deal of complaint is heard that with present prices of coke, ore and railroad freights, it is very difficult to figure any profit in making pig iron. Several valley furnaces have blown out for one cause or another, and more will follow if there is no early improvement in the market.

Money markets in the East continue comparatively easy, but are not quite as comfortable as before the Eastern bank troubles. Collections in the main continue good. The comparatively few failures in the iron trade under the trying circumstances of the year past are regarded as proof that the trade as a whole is in a strong and healthy condition.

We quote for cash f. o. b. cars Cincinnati:  
Southern coke No. 1 foundry.....\$15 00 \$15 50  
Southern coke No. 2 foundry and  
No. 1 soft..... 14 00 14 25  
Hanging Rock coke No. 1..... 16 50 17 50  
Hanging Rock charcoal No. 1..... 20 00 21 00  
Tennessee charcoal No. 1..... 17 00 17 50  
Jackson Co. stone coal No. 1..... 16 50 17 00  
Southern coke, gray forge..... 12 75 13 00  
Southern coke, mottled..... 12 50 12 75  
Standard Alabama C. W..... 19 50 20 50  
Tennessee C. W..... 18 00 19 00  
Lake Superior C. W..... 19 50 20 50

CHICAGO, November 14, 1891.

Increasing dullness characterizes business in this district. While carload orders are numerous, there is but little enquiry for anything in the way of large lots, consumers being now supplied for the balance of the year and well towards spring of 1892. Prices on coke metal remain unchanged, but some of the Southern companies indicate a disposition to grant small concessions when necessary to secure business. Lake Superior charcoal is also inactive, and a brisk competition exists whenever inquiries are made, even for small lots.

The outlook indicates small run of business only during balance of year. The conditions, however, are healthy, and a decided improvement both in demand and values may occur any time after the first of next year.

We quote for cash f. o. b. Chicago:  
Southern coke No. 2 foundry.....\$15 25 \$16 00  
No. 3 soft..... 14 50 15 25  
Lake Superior charcoal, Nos. 1-6..... 17 25 18 50

ST. LOUIS, November 14, 1891.

Since the heavy buying of thirty days ago, as was to be expected, but few large

orders have been placed, but a good run of orders from carload lots to 100 tons have been reported.

Enquiries for steel rails in the West are improving, and bids for some round car orders are being solicited. If a portion of these enquiries result in business it will add confidence and strength to the market, as this source is being closely watched by both buyers and sellers.

The leading Southern producers are comfortably sold, and are not pushing for business. Production and consumption are nicely balanced, and the near future seems to hold out considerable encouragement for the seller.

We quote for cash f. o. b. St. Louis:  
Southern Coke No. 1 Foundry.....\$15 50 \$15 75  
" " No. 2 "..... 14 50 14 75  
" " No. 3 "..... 13 75 14 25  
" Gray Forge..... 13 25 13 50  
" Charcoal No. 1..... 17 25 17 75  
" " No. 2..... 16 75 17 25  
Missouri Charcoal No. 1..... 15 50 16 00  
" " No. 2..... 15 00 15 50  
Ohio Softeners..... 18 00 19 00  
Lake Superior Car Wheel..... 19 50 20 00  
Southern..... 19 50 20 00  
Frick's Connellsville Foundry Coke..... 19 50 20 00

BUFFALO, November 14, 1891.

Present indications are that during the balance of the year there will be an accumulation of stocks unless a number of furnaces go out of blast.

The market is without life; sellers are plentiful, but buyers few. What little buying there is in the main calls for future delivery. More activity can scarcely be expected before January.

We quote for cash f. o. b. Buffalo:  
No. 1 X Fdy., Strong, Coke Iron, Lake Superior ore.....\$16 00 \$17 50  
Ohio Softener No. 1..... 16 25 16 75  
Jackson County Silvery No. 1..... 18 00 18 50  
Lake Superior Charcoal..... 18 00 18 50  
Tennessee Charcoal..... 18 00 18 50  
Southern Strong No. 1..... 16 25 16 75  
Southern Soft No. 1..... 16 00 16 50  
Alabama Car Wheel..... 19 50 20 00  
Hanging Rock Charcoal..... 21 00 22 00

PHILADELPHIA, November 14, 1891.

There is no market to report. This has been a quiet week and both buyers and sellers seem to be in a state of lethargy. The situation is not nearly as bad, however, as it was a year ago. Then furnaces were willing and anxious to sell ahead to 12 months. Now such contracts would not be made by any of the large producers of pig metal, unless a pretty sharp advance could be realized. In the absence of sales of any moment we quote prices same as last for this year's delivery f. o. b. Philadelphia:

Ohio Softeners, No. 1 X.....\$19 25 \$19 50  
" " No. 2 X..... 18 25 18 50  
Standard Penn. No. 1 X..... 17 50 18 25  
" " No. 2 X..... 16 75 17 25  
Strong Neutral Forge..... 14 50 15 25  
Lake Superior C. C..... 20 00 21 00  
Standard So. C. W. Bibb, Attalla, etc. 22 50 23 00  
Bessemer Steel Billets and Slabs..... 27 00 27 50

ROGERS, BROWN &amp; CO.

LOUISVILLE, KY., November 14, 1891.

The market remains very quiet. There is but little enquiry for pig metal, nor is there any special effort being made on the part of furnaces to sell. Buyers as a rule seem to be fairly well supplied and not inclined to add to their stocks until after the first of the year, and the majority of the furnaces seem to be comfortably sold up for the next few months, and, notwithstanding the accumulation in stocks noted for last month, and the enormous production reported at the present time, there is no special weakness discernible. Car-wheel iron continues to be offered at low prices for this year's delivery, but where parties desire deliveries running for six months or the whole of next year, considerably higher prices are being asked and there is a firmer feeling.

We quote for cash f. o. b. cars Louisville:  
Southern Coke, No. 1 Foundry.....\$14 50 \$15 00  
" " " "..... 13 75 14 25  
" " " "..... 13 25 13 75  
Charcoal, No. 1 Foundry..... 16 00 17 00  
Car Wheel, stand'd brands. 18 00 20 00  
GEO. H. HULL & CO.

### TRADE NOTES.

In another column is published the card of S. W. Frescoln, of New York city, engineer and contractor. Mr. Frescoln holds a prominent place in his profession, possessing an exceptional scientific training, and has had a practical experience in the design and construction of engineering works which cover New England, the Middle, Southern and Southwestern States, the West Indies and Central America. We feel sure that any of our readers who may correspond with him for professional information in the line of his business will receive satisfactory attention.

WEST & BRANCH, of 1417 Main street, Richmond, Va., report an active condition of business. They are just completing a \$20,000 job at the new Richmond Masonic Temple for the Plenum system of heating and ventilating, the principle of which is to furnish cool air in summer and warm air in winter. Among other recent contracts secured by this progressive firm are heating and plumbing work at the Gladys Inn, Clifton Forge, Va., amounting to \$9,000, and a \$11,000 contract at Glasgow, Va. They have booked a large number of orders for plumbers' supplies, etc., and prospects indicate a brisk trade ahead.

THE Columbia Electric Co., of St. Paul, Minn., manufacturers of dynamos, motors and electrical supplies, has issued a handsome catalogue of its newly improved motors and dynamos. This company places its apparatus on the market with guarantees that electrically, mechanically and legally it is equal in points of merit to any. In all of the machines constructed by this concern the electrical details are carefully calculated and the mechanical construction so proportioned, it is claimed, as to conform strictly to electrical requirements. Each machine, after being built in accordance with such ideas, is then subjected to a rigid inspection and thorough test, carrying an actual load 10 to 15 per cent. in excess of their rated capacities for several hours duration.

ANNOUNCEMENT is made of a change in the Sebastian-May Co., of Sidney, Ohio. Benjamin Sebastian, Jr., who has been identified with these well known manufacturers of machine tools, etc., for the past eight years, informs his friends and the machinery trade in general that, having disposed of his interests in and severed his connection with that company, he has resumed business at Cincinnati, Ohio, under the name and style of the Sebastian Lathe Co. This new company will commence at once the manufacture of a complete line of foot and power lathes of the very latest and most approved designs. The aim of Mr. Sebastian in his new departure will be to establish a reputation for his tools for exactness, convenience, elegance and adaptation to the end sought which shall be second to none. His policy will be to accept every opportunity for improvement and to neglect no device that could add to the usefulness of the tools. His works have been equipped with the best machin-

ery, specially adapted to the work proposed, and employing skillful labor, he confidently offers the tools of his manufacture, believing that they will meet with the approval of the most exacting.

THE Standard Coal Co., of 244 Washington street, Boston, Mass., owns and operates a chemical compound for combining with coal, which practical demonstration has proved of great value. Various tests of this chemical developed some surprising results in the matter of utility and economy. Instances are given of savings in fuel ranging from 36 to 79 per cent., and testimony adduced showing that the action of coal treated with this chemical upon the furnace grates, tubes or surface of the iron exposed is much more favorable than the coal burned in its natural state. The company has received a number of flattering testimonials from companies adopting this system after testing its merits, and feels confident that a trial test will warrant its adoption by all large consumers of coal.

As we stated in the Call of September 16th, the Cincinnati Corrugating Co. proposed to extend their tin plant in due time, and we are now advised that in pursuance of this determination they have ordered the following additions to their present outfit: One pair cold rolls from A. Garrison & Co., Pittsburg; 6 annealing boxes from McKeesport (Pa.) Machine Co.; 4 Morewood tinning pots; 1 five-roll Morewood tinning machine; 1 pump for liquid tin; complete kits of tinman's and washman's tools; necessary shaftings and pulleys; also fire and red brick, cement, lime, castings, bolts, etc., to erect a complete tinning "stack." The first two items are already shipped. The next three are ordered of C. A. Britton, Cleveland, and will be shipped within three or four weeks. Mr. Britton's machines are made at Cleveland, Ohio, after Welsh machinery imported directly by him for that purpose. An extension is necessary to contain part of the new machinery, etc., for the tin plant, as there is not room for all in their present factory buildings. This extension was commenced this morning in charge of Mr. David Speelman, and will be completed within two weeks. All the additions to the tin plant will be completed in four to six weeks, and the Corrugating Co. will then have increased facilities for making either bright orterne tinplates of highest grades. The steel sheets will be rolled as heretofore, by the Piqua Rolling Mill Co., that rolled several tons of No. 30 gauge steel sheets for this purpose last week. If the Corrugating Co. finds the operation of the plant above referred to as profitable as they have reason to expect, they propose to double or treble it as fast as good business policy dictates. The course of the Corrugating Co. has been entirely consistent from the beginning, and casts shame upon those who, by their senseless partisanship, have cried down the beginning of an American industry in our city because, forsooth, it was on a scale too humble to suit its would-be critics.—Piqua Daily Call, October 26.

S. F. PATTERSON, of Fincastle, Va., will want staves and heading by the carload.

V. H. MARSHALL, of Anniston, Ala., desires addresses of manufacturers of portable houses for railroad contractors' use.

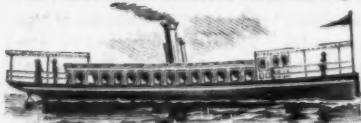


## The Markets.

OFFICE MANUFACTURERS' RECORD,  
BALTIMORE, November 18, 1891.

Apart from the action of the Pennsylvania Railroad Co. last week in contracting for 60,000 tons of steel rails, its annual requirement, at \$30 at mill, as reported in the last issue of the MANUFACTURERS' RECORD, nothing occurred to attract attention to the iron trade. There are inquiries now in hand for forty odd thousand tons, most of which will probably be secured by Pennsylvania rail makers. The most careful inquiry and scrutiny fails to detect the slightest movement in the trade towards an increased demand. The entire iron trade is drifting along quietly, apparently satisfied with things as they are. Manufacturers in all lines have been for some time waiting for a heavier demand which they thought ought to come on account of the possibility of an upward tendency in prices. While buyers admit the possibility of such a tendency, they are not buying in anticipation of it. Our inquiries have extended to nearly all the leading markets of the country, and we find only here and there large transactions are taking place, and these are not occurring through the fear of any higher prices. Several large foundry concerns in the West have made quite liberal purchases of Southern foundry irons with the understanding that deliveries are to be extended from date of contract until April 1st. The only uncertainty involved in these transactions is the possibility of varying freight rates. Nearly all the large Southern pig iron companies are marketing the great bulk of their product without difficulty. At two or three points an accumulation of stocks is reported. The Southern demand for foundry iron is slowly increasing. Throughout the Northwest Southern irons are in favor, and representatives of furnaces who have been travelling through the Northwest for the last two months on tours of observation and business, return with the information that an enlarging demand is only a matter of time. Throughout the Ohio valley a moderate demand is maintained. At Chicago the market for iron and steel products is active in such products as sheet iron, barbed wire, hardware, merchant steel and small pipes and tubes. In crude iron, bars and plates there is no great activity. In Ohio and Indiana markets a moderate business is being done. Throughout Pennsylvania the consumption is heavy, but there is nothing to call for special remark. At New York a moderate volume of business has been transacted, and brokers predict an active winter, particularly in steel billets, rails, merchant steel, sheet iron and pipes.

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HIGH SPEED MARINE ENGINES All types of boat boilers, including the ROBERTS WATER TUBE SAFETY BOILER with our improvements. CHAS. P. WILLARD & CO., Catalogue free. 5 Donlin St., Chicago

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PULLMAN BUFFET SLEEPING CARS THROUGH FROM ST. LOUIS WITHOUT CHANGE.

Free Reclining Chair Cars St. Louis to Malvern. Round Trip Tickets on sale at all coupon ticket offices in the United States and Canada. For further information address your nearest ticket agent or H. C. Townsend, Gen. Pass. Agt., St. Louis, Mo.

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No. 1 cuts 5 inches, \$9.50 Discount  
No. 2 cuts 7 " 3.00 (to Dealers)

HUNT & CONNELL, LIMITED, SCRANTON, PA.

### IRON AND BRASS FOUNDERS.

HAIGHT & CLARK,

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Fine Gray Iron, Brass and Bronze Castings. Only the best quality of metal used. Send samples for estimate. Nickel, Brass and Bronze Plating.

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### BEST YORKSHIRE BAR IRON,

The best material for Staybolts, Piston Rods, Crank Pins, etc.

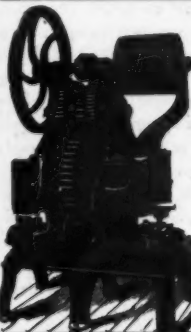
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Punches  
—AND—  
Shears  
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Double Power Punch.  
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### CRAWFORD'S PATENT EXHAUST PIPE HEAD



Prevents the spray nuisance. Saves your roofs and sidewalks by separating the water from exhaust steam. The condensation can be used by returning it into tanks on the floors of your building for fire purposes. Should be used in all buildings where the exhaust pipe goes through the roof. Guaranteed to work satisfactory, well made and the cheapest head on the market. 30 days' trial given responsible parties.

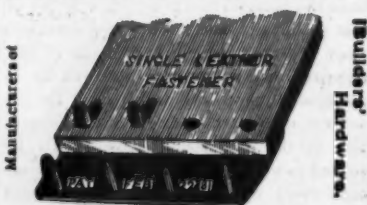
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### Thacher Patent Belt Fastener.



THE CLAFLEN MFG. CO.

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Sowed Cotton Duck Belting.

Especially adapted for Main Drivers, Saw Mills, Cotton Gins, Cotton Presses, and for all places where belts are subjected to moisture or atmospheric changes, the "GANDY" stands paramount.

The Gandy Belting Co.  
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Southern Agents—L. M. Ramsey Mfg. Co., St. Louis, Mo.; Smith-Courtney Co., Richmond, Va.; Atlanta Rubber Co., Atlanta, Ga.; Baker, Sisco & Co., New Orleans, La.

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The Only Manufacturers of Raw Hide Belting in the Country.

## The Chicago Rawhide Mfg. Co.

—MANUFACTURERS OF—

### RAWHIDE BELTING, LACE LEATHER,

ROPE, LARIATS, FLY-NETS,

Picker Leather, Stock and Farm Whips, Washers, Hame Straps, Hame Strings, Halters and other Rawhide Goods of all kinds, by Krueger's Patent.

This Belting and Lace Leather is not affected by steam or dampness; has more grip than any other; never becomes hard; is stronger, more durable and the most economical belting made. Especially adapted for the Southern trade on account of its resistance to moisture. The Rawhide Rope for Round Belting Transmission is SUPERIOR TO ALL OTHERS.

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## LEVIATHAN BELTING

Positively Unequalled for Strength, Durability and Traction Power; Unaffected by Heat, Steam or Water.

BELTS FOR MAIN DRIVING AND WORK OF A HEAVY NATURE.

SOLE MANUFACTURERS,

### MAIN BELTING CO.

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ALL LEATHER, NO IRON ROD OR HINGE, AND STRONG LEATHER LINK AND IRON ROD BELTING AND ROPE TRANSMISSION SUPERIOR

OUR BELTING IS TANNED ON THE SURFACES ONLY. INTERIOR IS RAWHIDE. THE ONLY PERFECT BELT MADE. NO SLIPPING OR LOST MOTION.

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For Cotton Seed Oil Mills, Phosphate and Fertilizer Works, Gineries, Starch Works, Sugar Refineries, Cement Works, Rice Mills, Grain Elevators, Flour Mills, Etc.



"SOUTH BEND"  
Wood Split Pulleys,  
With Iron Hubs  
and Iron Bushings.  
Will Not Slip on  
Shaft. No Danger  
From Fire.

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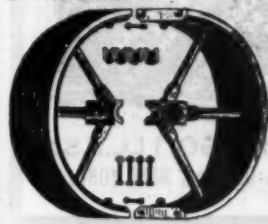
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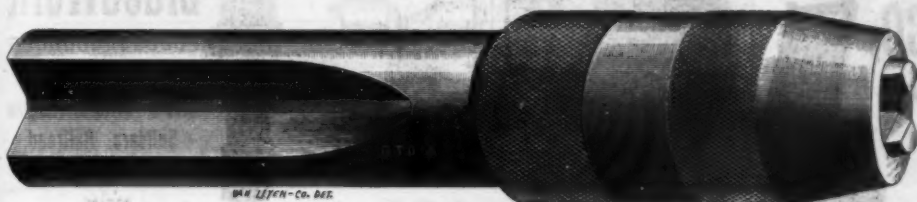
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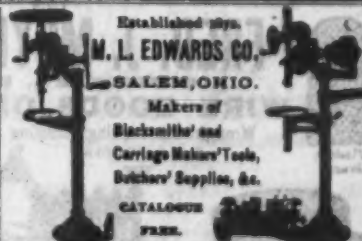
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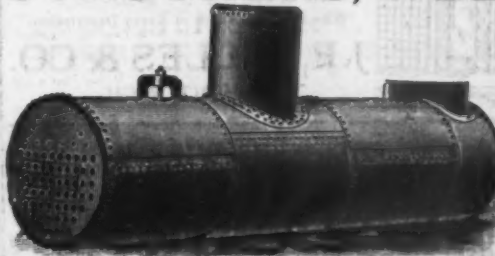
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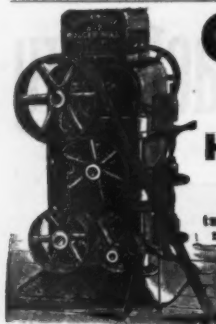
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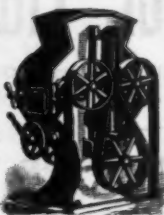


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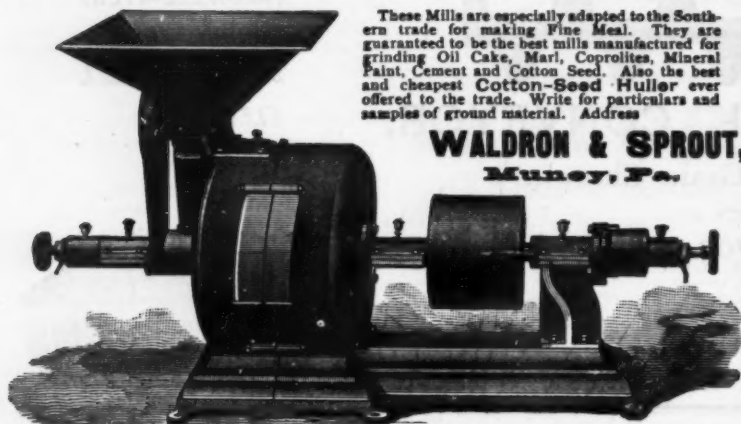
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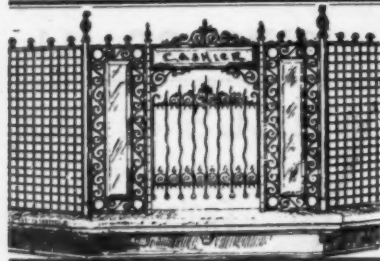
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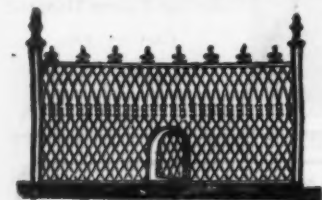
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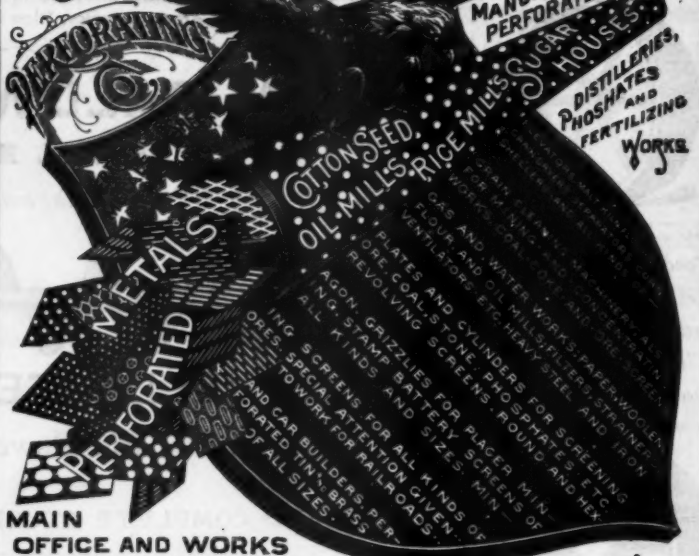
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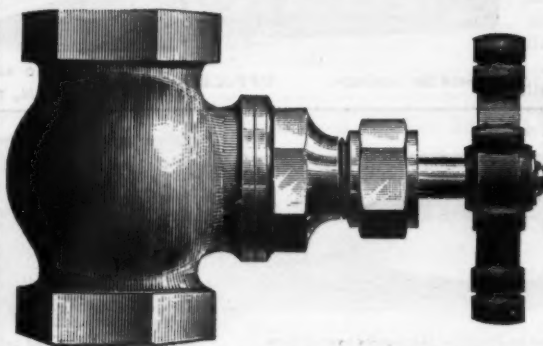
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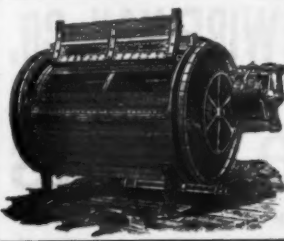
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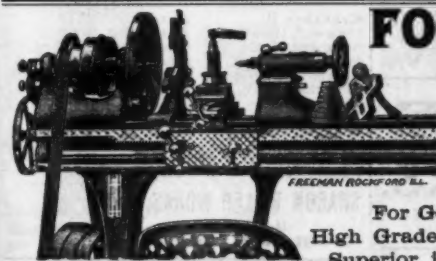
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## Eastern Lumber Markets.

[Special Cor. MANUFACTURERS' RECORD.]

NEW YORK, November 17 1891.

A committee of hemlock manufacturers met at Ridgway, Pa., last week and appointed a committee of nine to formulate a plan to advance the hemlock lumber interests, to report January 10th, 1892. A combination is proposed based upon an annual production of 300,000,000 feet. Producers, it is proposed, should take stock according to the amount of lumber they turn out. The plan certainly possesses valuable features, and the entire hemlock trade will have it under consideration until the date of next meeting. The yellow pine interests could take a hint, and a valuable one, from the plan proposed above, but this disadvantage exists in the South, namely, that the yellow pine interests are scattered, while the hemlock interests of Pennsylvania are concentrated. Nothing has occurred in trade circles. Comparatively few wholesale holders of lumber are trying to sell. The local dealers here are reorganizing, and expect to act more in harmony during the coming year, and are agreeing among themselves to sell only to dealers. The yellow pine combination is not yet concluded. The project is favored by the great body of retail lumber dealers. The wholesale men look upon it with favor. A good deal of yellow pine is selling for flooring purposes. If the tunnels are built under New York, which the engineering experts propose in order to solve the problem of rapid transit, there will be an immense call for yellow pine boards. A good deal of yellow pine is being shipped to Central and South America; that demand is constant. Kiln-dried stuff from North Carolina is meeting with a good demand. The rough stuff is taken most generally and worked up to suit requirements here. Nothing new has occurred in yellow pine. Exports this year are about the same as last. Quotations for yellow pine are \$44 for uppers one inch, \$40 for selects, \$36 fine common, \$28 for cutting up, \$22 for common, \$13.50 for box boards, \$30 for No. 1 shelving, \$36 for No. 1 moulding.

Machines are always being invented to revolutionize every business that was ever started. The Bradley draw cutting machine is a machine designed to cut thin boards and planks. The feature of the machine is the small loss in planing. It has done very good work on all kinds of hardwoods on which it has been tried. We have not seen this machine, and speak only from hearsay.

The hardwoods are in very fair shape, though demand is not above last year. The whole trade is waiting for the turn to come. Fortunately dealers are not stocking up too far in advance. Some of our hardwood men have been trying to induce furniture manufacturers to take more stuff, but they will not. Walnut is stronger than for some time. Cherry, of course, holds its own. Gum is coming slowly into popularity, and it would not be surprising to find it some day a popular wood.

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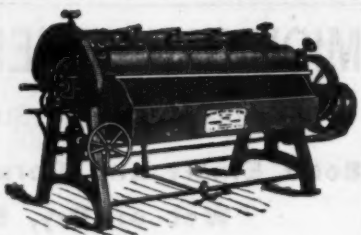
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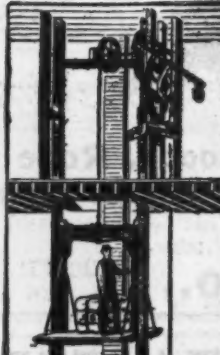
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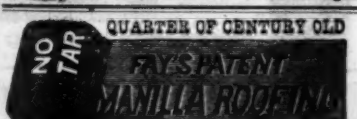
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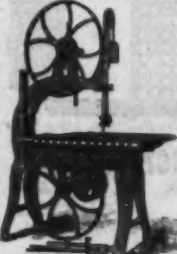
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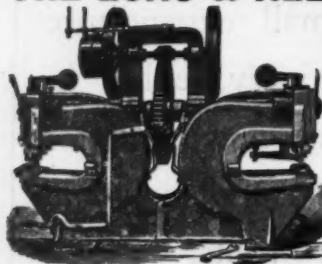
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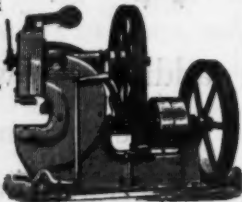
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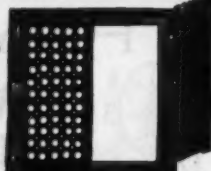
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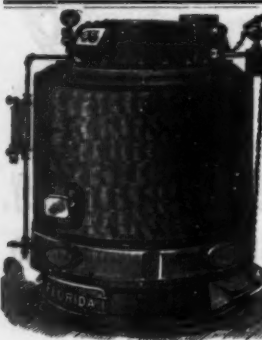
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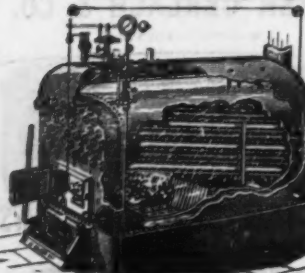
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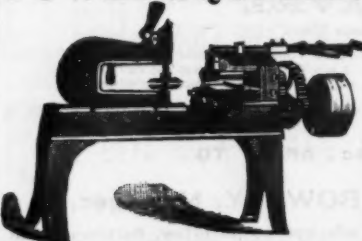
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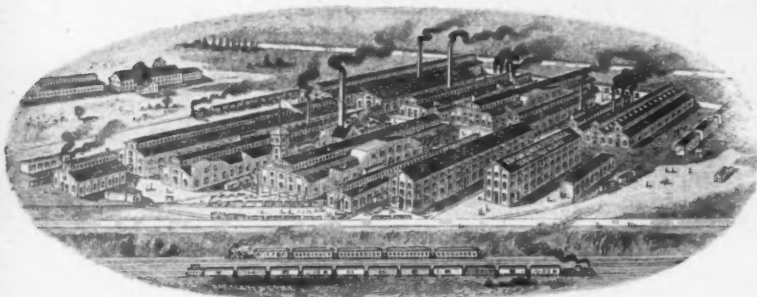
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Charleston Iron Works	72	Haines, Jones & Cadbury Co.	68	Otto Gas Engine Works	4		
Chaletanoga Fdry. & Pipe Wks.	72	Harrington, E. Son & Co.	64	P			
C. H. & D. R. R.	58	Harrington & King Perforat. Co.	62	Page Belting Co.	6		
Chesapeake Belting Co.	66	Harrisburg Boiler & Mfg. Co.	72	Palmer, Cunningham & Co. (Lim.)	64		
Chester Steel Castings Co.	62	Harrisburg Fdy. & Mch. Wks.	31	Pancoast & Manie	64		
Chicago Raw Hide Mfg. Co.	66	Harris & Co., N. W.	36	Penberthy Injector Co.	29		
Cincinnati Corrugating Co.	55	Harrison Safety Boiler Works	6	Penfield, J. W. & Son	54		
Cincinnati Milling Machine Co.	50	Hartford Steam Boiler Inspection & Insurance Co.	59	Penna. Machine Co., Limited	46		
Claffen Mfg. Co.	66	Hart Mfg. Co.	39	Perfection Sash Balance Co.	72		
Clapp, Geo. M., Agt.	46	Hazelton Tripod Boiler Co.	31	Philadelphia Engineering Wks.	30		
Clark, Geo. P.	64	Heartley, Geo. W.	55	Phosphor-Bronze Smelt. Co. (Lim.)	30		
Clark, W. J. & Co.	64	Hercules Iron Works	43	Photo. Electro Engraving Co.	6		
Cleveland & Hardwick	64	Heine Safety Boiler Co.	33	Piedmont Air Line	59		
Cleveland Axle Mfg. Co.	76	Heiser Electric Light Co.	75	Pierce, Butler & Pierce Mfg. Co.	72		
Cleveland & Canton R. R. Co.	58	Hine & Robertson	75	Pierce, Josiah	43		
Cleveland Steam Fitting & Supply Co.	66	Hofstetter, J. J.	70	Pittsburgh Port. Forge Co., Ltd.	46		
Cleveland Twist Drill Co.	67	Holt Mfg. Co.	70	Place, George	46, 51		
Cleveland Wheel'w & Mfg. Co.	34	Holton Iron Roofing Co.	69	Polandster, Parks L.	37		
C. L. & W. R. R.	34	Hopkins & Townsend Co.	61	P. O. Box 241	51		
Codd, Wm. C. & Co.	46	Hoppe's Mfg. Co.	61	Poor, H. V. & H. W.	51		
Coe & Wilkes	46	Houchins, A. W.	64	Porter, C. O. & A. D.	52		
Coleman, H. Dudley, Machinery Co., Limited	47	Howard Hydraulic Cement Co.	57	Porter, H. E. & Co.	62		
Collins & Hackett	43	Humphreys, P. C.	43	Potts, C. A. & Co.	54		
Collinsdale Hotel	59	Hunt & Connel	66	Powell Co., Wm.	53		
Colton, G. D. & Co.	66	Hunting, E. B. & Co.	70	Prentiss Tool & Supply Co.	46		
Columbus Iron Works Co.	57	Huyett & Smith Mfg. Co.	29	Providence Steam & Gas Pipe Co.	75		
Columbus Wire Works	58	I					
Colville, Fulton	51	Illinois Central Railroad	58				
Conally, Geo. N.	43						
Connelly, B. A.	50						
Consolidated Roofing Works	76						
Contractors' Plant Mfg. Co.	76						
Cooke & Cooke	51						

\* Not in this issue.

(CONTINUED FROM PAGE 2.)

<b>Steamers.</b> Furness Line. Bay Line Steamers. Balto. Stor. & Light Co. Steel (Mushet's). B. M. Jones & Co. <b>Steel Rails.</b> (See also R. R. Equipment and Supplies.) Robinson & Orr. Penna. Steel Co. <b>Textile Machinery and Supplies.</b> O. B. Arnold. James Smith Woolen Machinery Co. Bridgman Mach. Wks. Lowell Machine Shop. M. Gambrell & Co. Nye & Treddick. American Supply Co. Crompton Loom Wks Globe Machine Works Geo. Draper & Sons. Whitinsville Spinning Ring Co. Geo. F. Clark. <b>Tires.</b> Standard Steel Works. <b>Tools (Machine &amp; Hand.)</b> Henley Mach. Tool Wks Bradford Mill Co. Bement, Miles & Co. L. S. Starrett. Sebastian-May Co. Geo. W. Heartley. J. J. McCabe. Penna. Machine Co. M. L. Edwards Co. Billings & Spencer Co. Cincla, Mill'g Mach. Co. Covel Mfg. Co. Hart Mfg. Co. Belden Mch. Co. Stow Flexible Shaft Co. D. E. Whiton Mch. Co. Cleveland Tw. Drill Co. Laibe & Morse Tool Co. E. Harrington Son & Co. Lodge & Davis Machine Tool Co. Prentiss Tl. & Sup. Co. W. F. & Jno. Barnes Co. H. L. Shepard. Pancoast & Masie. <b>Towns.</b> Bessemer City, N. C. N. Wilkesboro, N. C. Linville, N. C. Elkton, Va. Rutherfordton, N. C. Norfolk, Va. Newport News, Va. Winston-Salem, N. C. New Castle, Va. Front Royal & River- ton, Va. Savannah, Va. Minneapolis, Va. Middleborough, Ky. <b>Turnbuckles.</b> Central Iron & Steel Co. <b>Valves.</b> Ashton Valve Co. Wm. Powell Co. Mason Regulator Co. Jenkins Bros. Ludlow Valve Mfg. Co. <b>Veneer Cutting Machines.</b> (See Woodworking Ma- chinery.) <b>Ventilators, Fans, &amp;c.</b> West & Branch. Huyett & Smith Manu- facturing Co. F. Sterrett & Co. Geo. F. Clark. E. Van Noorden & Co. <b>Wagon Builders' Machy. and Supplies.</b> M. L. Edwards Co. Geo. W. Heartley. Union Foundry & Ma- chine Works.	<b>Cleveland Axle Manu- facturing Co.</b> <b>Watchman's Clocks.</b> A. Nans & Co. <b>Water Closet.</b> Haines, Jones & Cad- bury Co. <b>Water Filters.</b> J. A. Bowden & Co. <b>Water Motors.</b> Warfield Mfg. Co. <b>Water Wheels.</b> Munson Bros. Allentown Foundry & Machine Co. E. T. Copeland & Co. De Loach Mill Mfg. Co. Jas. Leffel & Co. Stillwell & Bierce Mfg. Co. S. Morgan Smith. <b>Well Tools.</b> Williams Bros. Star Drilling Mach. Co. American Well Works. Oil Well Supply Co. Deming Co. <b>Wheelbarrows.</b> Pitts. Port. Forge Co. Cleveland Wheelbarw & Mfg. Co. Kilbourne & Jacobs Mfg. Co. G. L. Stuebner & Co. <b>Wind Engines.</b> U. S. Wind Engine & Pump Co. Mast, Foss & Co. American Well Wks. Van Winkle Gin & Mach. Co. <b>Wire, Wire Rope, Barbed Wire, &amp;c.</b> Cooper, Hewitt & Co. Williamsport W. Rope Co. Ludlow Saylor Wire Co. <b>Wire Goods.</b> Columbus Wire Works. J. E. Boiles & Co. H. Balderson & Son. E. T. Barnum. Fred. J. Meyers Mfg. Co. Dufar & Co. Ludlow Saylor Wire Co. <b>Wire Nails.</b> Salem Wire Nail Co. <b>Wood-Working Machinery.</b> F. Prybil. J. Ed. Morris. Greer Machinery Co. Battle Creek Machy. Co. Jacob J. Molts. U. S. Machine Co. H. E. Smith Mach. Co. Smith-Courtney Co. Penna. Machine Co. Frank & Co. Victor Mfg. Co. Globe Machine Co. Greaves & Klusman. Robt. Easton. Cordeman Mach. Co. Jas. Jenks. E. & B. Holmes. Peter Gerlach & Co. E. E. Merritt Micky The Egan Co. C. B. Rogers & Co. Cordeman, Meyer & Co. Rowley & Hermance. J. S. Graham & Co. Glen Cove Machine Co. Trevor Mfg. Co. Coe & Wilkins. S. C. Forsyth Mch. Co. Williamsport Mch. Co. Sam. J. Shimer. Goodell & Waters. S. A. Woods Mch. Co. W. F. & Jno. Barnes Co. H. L. Shepard. Josiah Ross. <b>Wood Water Pipe.</b> A. Wyckoff & Son. <b>Wrenches, &amp;c.</b> Billings & Spencer Co.
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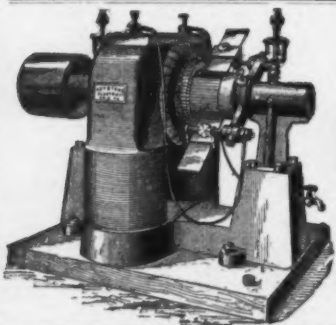
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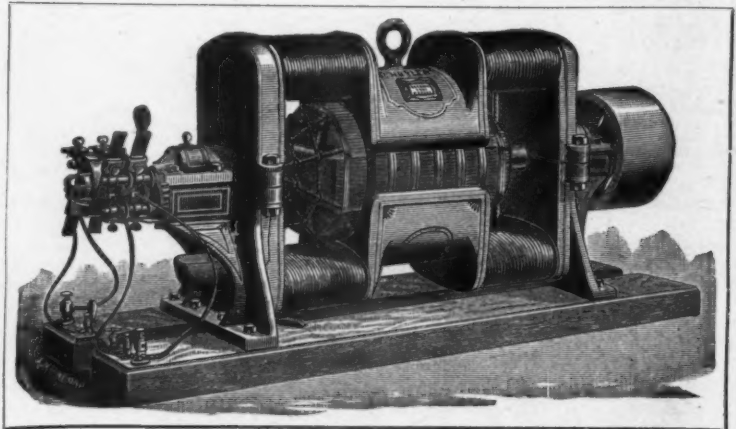
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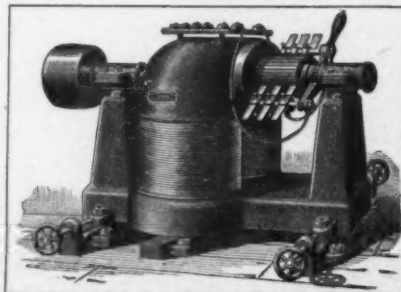
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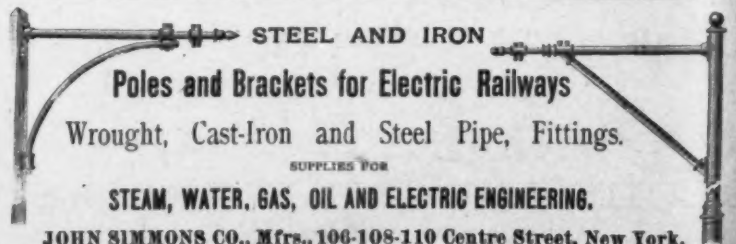
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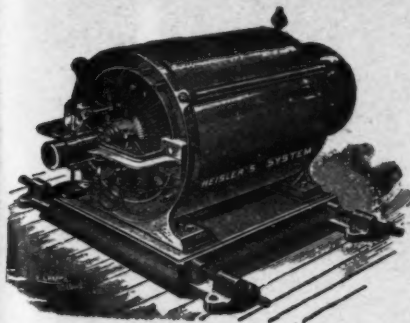
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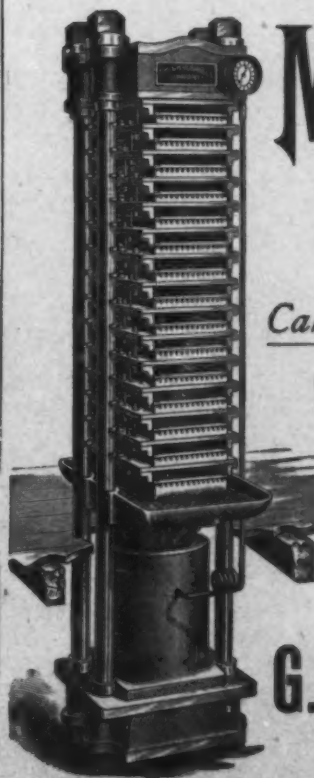
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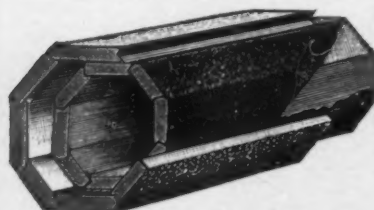
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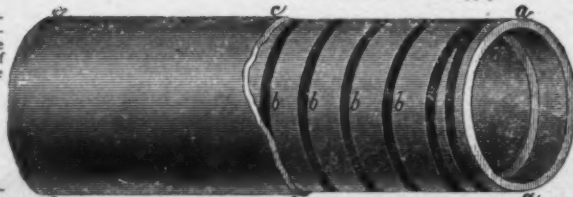
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